



# CURRENT AFFAIRS SEPTEMBER 2022

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## Economic & Social Development

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### 1. Global Innovation Index 2022:

- Recently, India was ranked 40th position out of 132 in the Global Innovation Index (GII) 2022 rankings released by World Intellectual Property Organisation (WIPO).
- India was ranked 46th position in 2021, and 81st rank in 2015.

### Ranking of the Countries:

#### Most Innovative Economy:

- Switzerland is the most innovative economy in the world in 2022 - for the 12th year in a row - followed by the United States, Sweden, the United Kingdom and the Netherlands.
- China is nearing the top 10 while Türkiye and India enter the top 40 for the first time.

#### Performance of India:

- India is the innovation leader in the lower middle-income group.
- It continues to lead the world in ICT services exports and holds top rankings in other indicators, including venture capital receipt value, finance for startups and scaleups, graduates in science and engineering, labor productivity growth and domestic industry diversification.

#### Increase in R & D Expenditure:

- The top global corporate R&D spenders increased their R&D expenditure by almost 10% to over USD 900 billion in 2021, higher than in 2019 before the pandemic.

#### Venture Capital (VC) Growth:

- It exploded by 46% in 2021, recording levels comparable to the internet boom years of the late 1990s. Latin America and the Caribbean and Africa regions are witnessing the strongest VC growth.

#### About Global Innovation Index:

- The Global Innovation Index, which is published annually, has been a leading reference for measuring an economy's innovation performance.
- A large number of countries use the GII to assess and improve their innovation ecosystems and use the GII as a reference in economic plans and/or policies.
- The GII has also been recognized by the UN Economic and Social Council in its 2019 resolution on Science, Technology and Innovation for Development as an authoritative benchmark for measuring innovation in relation to the Sustainable Development Goals (SDGs).

#### Indicators of the index:

- Parameters for computing the index include 'institutions', 'human capital and research', 'infrastructure', 'market sophistication', 'business sophistication', 'knowledge and technology outputs' and 'create outputs'.

#### What is WIPO?

- WIPO is the global forum for intellectual property (IP) services, policy, information and cooperation.
- It is a self-funding agency of the United Nations, with 193 member states.
- Its aim is to lead the development of a balanced and effective international IP system that enables innovation and creativity for the benefit of all.

- Its mandate, governing bodies and procedures are set out in the WIPO Convention, which established WIPO in 1967.

## 2. Duare Ration Scheme declared void:

- Recently, the Calcutta High Court has recently held that West Bengal Government's Duare Ration Scheme is illegal.
- It called the scheme illegal as it coincides with the National Food Security Act, 2013.
- It held that the West Bengal transgressed the limit of delegation by obliging the fair price shop dealers to undertake doorstep delivery of rations since there are no provisions specifying the same in the NFSA.
- Doorstep delivery of foodgrains can be provided only if the Act is amended by the Central Government for the doorstep delivery or to provide such power to the state government.
- Earlier, the vires of the Duare Ration Scheme was upheld by two single judge orders in the Calcutta High Court.

### National Food Security Act (NFSA), 2013:

- Notified on: 10th September, 2013.
- Objective: To provide for food and nutritional security in the human life cycle approach, by ensuring access to adequate quantities of quality food at affordable prices to people to live a life with dignity.
- Coverage: 75% of the rural population and upto 50% of the urban population for receiving subsidized foodgrains under Targeted Public Distribution System (TPDS).
- Overall, NFSA caters to 67% of the total population.

### Eligibility:

- Priority Households to be covered under TPDS, according to guidelines by the State government.
- Households covered under existing Antyodaya Anna Yojana.
- Provisions:
- 5 Kgs of foodgrains per person per month at Rs. 3/2/1 per Kg for rice/wheat/coarse grains.
- The existing AAY household will continue to receive 35 Kgs of foodgrains per household per month.
- Meal and maternity benefit of not less than Rs. 6,000 to pregnant women and lactating mothers during pregnancy and six months after the child birth.
- Meals for children upto 14 years of age.
- Food security allowance to beneficiaries in case of non-supply of entitled foodgrains or meals.
- Setting up of grievance redressal mechanisms at the district and state level.

## 3. SC-ST Hub Conclave:

- Recently, the Ministry of Micro, Small and Medium Enterprises (MSME) ministry organized a national SC-ST hub conclave in Gujarat.
- National Scheduled Caste Scheduled Tribe Hub (NSSH) scheme was launched by the MSME ministry to promote an inclusive economy and entrepreneurship among SC/ST

community. It is implemented by the National Small Industries Corporation (NSIC) – a public sector undertaking under the MSME ministry.

- Its purpose is to fulfil the obligations under the Central Government Public Procurement Policy for Micro and Small Enterprises Order 2012. The hub provides professional aid to the SC/ST enterprises to help them to effectively participate in the public procurement process.
- It leverages the Stand Up India programme. Under this scheme, selected entrepreneurs would be provided with support and mentoring by industry experts, CPSEs and incubators.
- Its other focus areas include vendor development, building reliable database, credit facilitation, capacity building, technology upgradation, marketing support and special subsidies.

#### 4. Encyclopedia of Tribes in Odisha:

- Recently, the Odisha released an Encyclopedia of Tribes in Odisha.
- The encyclopedia was published by Scheduled Castes and Scheduled Tribes Research and Training Institute (SCSTRTI) and Odisha State Tribal Museum.
- With the release of the five volumes of “Encyclopedia of Tribes in Odisha”, Odisha became the first state in India to start an encyclopedia on tribal communities and document their historic and unique traditions.
- It has 418 research articles focusing on tribal communities, including 13 particularly vulnerable groups.
- This 3,800-page scholarly book came as a result of research contributions from numerous scholars and eminent anthropologists.
- The purpose of this book is to preserve the rapidly changing cultural identity of tribal communities in the state.
- It brings together both published and unpublished data regarding the tribes’ ethnography and development over the years, covering their past as well as the present.

#### SCSTRTI:

- SCSTRTI is the oldest tribal research institute in India. It was established as the Tribal Research Bureau (TRB) in 1952 and was later renamed as Scheduled Castes and Scheduled Tribes Research and Training Institute (SCSTRTI) in 1994.
- It has been consistently publishing its 61-year-old research journal titled “ADIVASI”. The main purpose of SCSTRTI is to conduct empirical research on various aspects concerning the tribes and evaluate various developmental programmes targeting tribal communities. It also conducts ethnic studies of various communities that are calling for the inclusion in the ST or SC lists.

#### 5. Ayushman Utkrishta Awards 2022:

- Recently, Uttar Pradesh has been awarded Ayushmann Utkrishta award 2022 today for adding various health facilities to health facility register. Uttar Pradesh is the best performing state in the country with 28728 Health facilities added to National health facility register.

- The National Health Authority, the implementing agency of the AB PMJAY, presented the Ayushman Utkrishtata Puraskaar (Ayushman Excellence Awards).
- They were conferred on the occasion of the Arogya Manthan 2022, which marks 4-year completion of AB PMJAY and one-year implementation of Ayushman Bharat Digital Mission (ABDM).
- The awards recognized the top performing states, Pradhan Mantri Arogya Mitras (PMAMs) and public hospitals under the AB PMJAY.
- They was also conferred to states/UTs, districts, private & government health facilities and digital health solutions under the ABDM.

#### **Ayushman Bharat-Pradhan Mantri Jan Arogya Yojana (AB-PMJAY):**

- Ayushman Bharat, a flagship scheme of Government of India, was launched as recommended by the National Health Policy 2017, to achieve the vision of Universal Health Coverage (UHC). It has two inter-related components - Health and Wellness Centres (HWCs) and Pradhan Mantri Jan Arogya Yojana (PM-JAY).
- PM-JAY is the world's largest health insurance/ assurance scheme fully financed by the government.
- Launched in February 2018, it offers a sum insured of Rs.5 lakh per family for secondary care (which doesn't involve a super specialist) as well as tertiary care (which involves a super specialist).
- Under PMJAY, cashless and paperless access to services are provided to the beneficiaries at the point of service, that is, hospital.
- Health Benefit Packages covers surgery, medical and day care treatments, cost of medicines and diagnostics.
- Packaged rates (Rates that include everything so that each product or service is not charged for separately).
- These are flexible but the hospitals can't charge the beneficiary more once fixed.

#### **Beneficiaries:**

- It is an entitlement-based scheme that targets the beneficiaries as identified by latest Socio-Economic Caste Census (SECC) data.
- Once identified by the database, the beneficiary is considered insured and can walk into any empaneled hospital.

#### **Nodal Agency:**

- The National Health Authority (NHA) has been constituted as an autonomous entity under the Society Registration Act, 1860 for effective implementation of PM-JAY in alliance with state governments.
- The State Health Agency (SHA) is the apex body of the State Government responsible for the implementation of AB PM-JAY in the State.

#### **What are the Challenges in Implementing PMJAY?**

##### **Cooperation of States:**

- Since health is a State subject and States are expected to contribute 40% funding for the scheme, it is critical to streamline and harmonise the existing State health insurance schemes to PMJAY.
- West Bengal and Odisha have not implemented PMJAY.

##### **Burden of Costs:**

- Costs are a contested area between the care-providers and the Centre, and many for-profit hospitals see the government's proposals as unviable.

### **Inadequate Health Capacities:**

- The ill-equipped public sector health capacities calls for necessary partnerships and coalitions with private sector providers.
- In such circumstances, the provision of services can be ensured only if the providers are held accountable for their services.

### **Page 9 Unnecessary Treatment:**

- The National Health Policy 2017 proposed “strategic purchasing” of services from secondary and tertiary hospitals for a fee.
- The contracts with the healthcare providers who will receive the financial compensation package should clearly spell out the strict following of notified guidelines and standard treatment protocols in order to keep a check on potential for unnecessary treatment.

### **6. Make in India completes 8 years:**

- Make in India completes eight years of path-breaking reforms and annual FDI doubles to USD 83 billion in 2022.
- It was launched in 2014, Make in India aims to transform the country into a leading global manufacturing and investment destination.
- The initiative is an open invitation to potential investors and partners across the globe to participate in the growth story of ‘New India’.
- Make In India has substantial accomplishments across 27 sectors. These include strategic sectors of manufacturing and services as well.

### **Objectives:**

- To attract foreign investment for new industrialisation and develop the already existing industry base in India to surpass that of China.
- Target of an increase in manufacturing sector growth to 12-14% per annum over the medium term.
- To increase the share of manufacturing sector in the country’s Gross Domestic Product from 16% to 25% by 2022.
- To create 100 million additional jobs by 2022.
- To promote export-led growth.

### **Outcomes:**

- FDI inflows: FDI inflows in India stood at USD 45.15 billion in 2014-2015 and have since consecutively reached record FDI inflows for eight years.
- The year 2021-22 recorded the highest ever FDI at USD 83.6 billion.
- On the back of economic reforms and Ease of Doing Business in recent years, India is on track to attract USD 100 Billion in FDI in the current Financial Year (2022-23).
- The import of toys in FY21-22 has reduced by 70% to USD 110 Mn (Rs. 877.8 cr.). India’s export of toys registers tremendous growth of 636% in April-August 2022 over the same period in 2013
- Production Linked Incentive (PLI): The Production Linked Incentive (PLI) scheme across 14 key manufacturing sectors, was launched in 2020-21 as a big boost to the Make in India initiative.

### **Initiatives to Support Make in India Scheme:**

#### **National Single Window System (NSWS):**

- The National Single Window System (NSWS) has been soft-launched in September 2021 to improve the ease of doing business by providing a single digital platform to investors for approvals and clearances.
- This portal has integrated multiple existing clearance systems of the various Ministries/Departments of the Government of India and State Governments to enhance the investor experience.

**Gati Shakti:**

- The Government has also launched a programme for multimodal connectivity to manufacturing zones in the country, called the Prime Minister's Gatishakti programme, which will ensure logistical efficiency in business operations through the creation of infrastructure that improves connectivity.

**One-District-One-Product (ODOP):**

- This initiative aims at facilitating the promotion and production of indigenous products from each district of the country and providing a global platform to the artisans and manufacturers of handloom, handicrafts, textiles, agricultural and processed products, thereby further contributing to the socio-economic growth of various regions of the country.

**Scheme for building Semiconductor Ecosystem:**

- Recognising the importance of semiconductors in the world economy, the Government has launched a USD 10 billion incentive scheme to build a semiconductor, display, and design ecosystem in India.

**Improving toy exports and reducing Imports:**

- To address the import of low-quality and hazardous toys and to enhance domestic manufacturing of toys, several strategic interventions such as increase of Basic Custom Duty from 20% to 60%, implementation of Quality Control Order, mandatory sample testing of imported toys, granting more than 850 BIS licenses to domestic toy manufacturers, development of toy clusters etc. have been taken by the government.

**Issues Related to the Make in India:**

**Investment from Shell Companies:**

- Large part of the Indian FDI is neither foreign nor direct but comes from Mauritius-based shell companies which are suspected to be investing black money from India only, which is routed via Mauritius.

**Low Productivity:**

- The productivity of Indian factories is low and workers have insufficient skills.
- McKinsey report states that Indian workers in the manufacturing sector are, on average, almost four and five times less productive than their counterparts in Thailand and China.

**Small Industrial Units:**

- The size of the industrial units is small for attaining the desired economies of scale, investing in modern equipment and developing supply chains.

**Infrastructure:**

- Electricity costs are almost the same in India and China but power outages are much higher in India.

**Transportation:**

- Average speeds in China are about 100 km per hour, while in India, they are about 60 km per hour. Indian railways have saturated and Indian ports have been outperformed by a lot of Asian countries.

- The 2018 World Bank's Logistics Performance Index (LPI) ranked India 44th among 160 countries. Singapore was ranked seventh, China 26th and Malaysia 41th. The average ship turnaround time in Singapore was less than a day and in India, it was 2.04 days.

**Red Tapism:**

- Bureaucratic procedures and corruption make India less attractive for investors.

**MAKE IN INDIA**

**MAKING INDIA AN INVESTMENT HUB OF THE WORLD**

Setting up of Empowered Group of Secretaries (EGoS)

- Facilitate investors for investments into India
- Synergies in investment & related incentive policies
- Timely clearances from different Departments/ Ministries
- Promote 'Make in India'

Cabinet Secretary will act as the Chairperson of EGoS

#InvestInIndia

**7. Operation Megh Chakra:**

- The operation code-named "Megh Chakra" is being carried out following the inputs received from Interpol's Singapore special unit based on the information received from the authorities in New Zealand.
- It is a pan-India drive against the circulation and sharing of Child Sexual Abuse Material (CSAM) conducted by the Central Bureau of Investigation (CBI).

**Key Points:**

- Searches at 59 locations across 20 States and one Union Territory were conducted.
- It has been alleged that a large number of Indian nationals were involved in the online circulation, downloading and transmission of the CSAM using cloud-based storage.
- The operation is sought to collate information from various law enforcement agencies in India, engage with the relevant law enforcement agencies globally and coordinate closely through the Interpol channels on the issue.

- The probe had led to the identification of over 50 groups with more than 5,000 offenders, including the nationals of about 100 countries.
- A similar exercise code named “Operation Carbon” was conducted by CBI in November 2021.

#### Issues Related to Child Sexual Abuse:

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- **Multi-layered Problem:** Child sexual abuse is a multi-layered problem which negatively impacts children’s physical safety, mental health, well-being and behavioural aspects.
- **Amplification Due to Digital Technologies:** Mobile and digital technologies have further amplified child abuse and exploitation. New forms of child abuse like online bullying, harassment and Child Pornography have also emerged.
- **Ineffective Legislation:** Although Government of India has enacted the Protection of Children against Sexual Offences Act 2012 (POCSO Act), it has failed to protect children from sexual abuse.

#### The reasons for this can be the following:

- **Low Conviction Rate:** The rate of conviction under the POCSO act is only about 32% if one takes the average of the past 5 years and the percentage of cases pending is 90%.
- **Judicial Delay:** The Kathua Rape case took 16 months for the main accused to be convicted whereas the POCSO Act clearly mentions that the entire trial and conviction process has to be done in one year.
- **Unfriendly to Child:** Challenges related to age-determination of the child. Especially laws that focus on biological age and not mental age.

#### Constitutional Provisions:

- The Constitution guarantees to every child the right to live with dignity (Article 21), the right to personal liberty (Article 21), the right to privacy (Article 21), the right to equality (Article 14) and/or the right against discrimination (Article 15), the right against exploitation (Article 23 & 24).
- Right to free and compulsory elementary education for all children in the 6–14-year age group (Article 21 A).
- The **Directive Principles of State Policy**, and in particular Article 39(f), cast an obligation on the State to ensure that children are given opportunities and facilities to develop in a healthy manner and in conditions of freedom and dignity and that childhood and youth are protected against exploitation and against moral and material abandonment.

#### Protection of Children from Sexual Offences Act, 2012:

- It was enacted to protect the children from offences of sexual assault, sexual harassment and pornography with due regard for safeguarding the interest and well-being of children.
- It defines a child as any person below eighteen years of age and regards the best interests and welfare of the child as a matter of paramount importance at every stage, to ensure the healthy physical, emotional, intellectual and social development of the child.
- It defines different forms of sexual abuse, including penetrative and non-penetrative assault, as well as sexual harassment and pornography.
- It deems a sexual assault to be “aggravated” under certain circumstances, such as when the abused child is mentally ill or when the abuse is committed by a person in a position of trust or authority like a family member, police officer, teacher, or doctor.
- It also casts the police in the role of child protectors during the investigative process.

- The Act stipulates that a case of child sexual abuse must be disposed of within one year from the date the offence is reported.
- It was amended in August 2019 to provide more stringent punishment, including the death penalty, for sexual crimes against children.

#### **Government Initiatives:**

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- Child Abuse Prevention and Investigation Unit
- Beti Bachao, Beti Padhao
- Juvenile Justice Act/Care and Protection Act, 2000
- Child Marriage Prohibition Act (2006)
- Child Labour Prohibition and Regulation Act, 2016

#### **8. Banking System Liquidity:**

- For the first time Liquidity in the banking system has moved into deficit mode after remaining in surplus mode for almost 40 months for the first time since May 2019.
- Liquidity in the banking system refers to readily available cash that banks need to meet short-term business and financial needs.
- On a given day, if the banking system is a net borrower from the RBI under Liquidity Adjustment Facility (LAF), the system liquidity can be said to be in deficit and if the banking system is a net lender to the RBI, the system liquidity can be said to be in surplus.
- The LAF refers to the RBI's operations through which it injects or absorbs liquidity into or from the banking system.

#### **What has Triggered this Deficit?**

- The change in the liquidity situation has come due to advance tax outflows. This also increases the call money rate temporarily above the repo rate.
- Call money rate is the rate at which short term funds are borrowed and lent in the money market.
- Banks resort to these types of loans to fill the asset liability mismatch, comply with the statutory CRR (Cash Reserve Ratio) and SLR (Statutory Liquidity Ratio) requirements and to meet the sudden demand of funds. RBI, banks, primary dealers etc are the participants of the call money market.
- Besides, there is the continuous intervention of the RBI to stem the fall in the rupee against the US dollar.
- The deficit in the liquidity situation has been caused by an uptick in bank credit, intervention of the RBI into the forex market, and also incremental deposit growth not keeping pace with credit demand.

#### **How can a Tight Liquidity Condition Impact Consumers?**

- A tight liquidity condition could lead to a rise in the government securities yields and subsequently lead to a rise in interest rates for consumers too.
- RBI may increase Repo Rate, which can lead to a higher cost of funds.
- Banks will increase their repo-linked lending rates and the marginal cost of funds-based lending rate (MCLR), to which all loans are linked to. This rise will result in higher interest rates for consumers.
- The MCLR is the minimum interest rate that a bank can lend at.

### 9. Breakthrough Prizes 2023:

- Recently, the Breakthrough Prizes for 2023 conferred to individuals who made key contributions in the scientific growth.
- The Breakthrough Prizes are international awards conferred under three categories – mathematics, fundamental physics and life sciences.
- These awards give recognition to scientific advances in these fields.
- The awards were created in 2010 by a group of Silicon Valley entrepreneurs – Milner (venture capitalist), Mark Zuckerberg and his wife Priscilla Chan of Facebook and Sergey Brin of Google.
- The Breakthrough Prizes were conferred for the first time in 2012 and the ceremony was hosted by Morgan Freeman.
- Awardees receive 3 million USD each in prize money, which is higher than the 1 million USD received by Nobel laureates.
- These prizes are conferred at a televised award ceremony that is organized to celebrate their achievements and inspire the next generation of scientists.
- This year, three prizes were conferred in the life sciences category, one for mathematics and one for fundamental physics.
- The total prize received by all these awardees are more than 15 million USD.

### 10. Convergence Portal between AIF, PMFME scheme & PMKSY:

- Recently, convergence portal between Ministry of Food Processing Industries and Ministry of Agriculture and Farmers Welfare, to support Food Processing Enterprises launched.

#### Major Highlights:

- The convergence portal brings together Agriculture Infrastructure Fund (AIF) scheme, Pradhan Mantri Micro Food Enterprises Upgradation Scheme (PMFME) and Pradhan Mantri Kisan Sampada Yojana (PMKSY).
- A standard operating procedure (SOP) was also issued to provide maximum benefits under these three schemes.
- It aims to boost the concept of “Vocal for Local”.
- The convergence portal aims to ensure effective collaboration between all ministries and departments and improving access to these schemes and creating positive impact for farmers and small-scale entrepreneurs of the food processing industry.

#### What is Agriculture Infrastructure Fund (AIF)?

- AIF) is a financing facility launched in 2020 to improve post-harvest management infrastructure and community farm assets through benefits like 3 per cent interest subvention and credit guarantee support. Under this, Rs.1 lakh crore funds are provided from 2020-21 to 2025-26 and interest subvention and credit guarantee assistance will be provided until 2032-33.
- The AIF has the facility of convergence with other schemes implemented by states and central government, enabling the optimization of multiple government schemes for a specific project.

#### PMFME Scheme:

##### Purpose:

- Enhance the competitiveness of existing individual micro-enterprises in the unorganized segment of the food processing industry and promote formalization of the sector.
- Support Farmer Producer Organizations (FPOs), Self Help Groups (SHGs) and Producers Cooperatives along their entire value chain.

**Objectives:**

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- Increased access to credit by existing micro food processing entrepreneurs, FPOs, Self Help Groups and Co-operatives.
- Integration with organized supply chain by strengthening branding & marketing.
- Support for transition of existing 2,00,000 enterprises into formal framework.
- Increased access to common services like common processing facility, laboratories, storage, packaging, marketing and incubation services.
- Strengthening of institutions, research and training in the food processing sector and increased access for the enterprises, to professional and technical support.

**11. Maharatna Status:**

- Recently, Rural Electrification Corporation (REC) has been accorded the status of a 'Maharatna' Central Public Sector Enterprise (CPSE).
- REC is a Non-Banking Financial Company (NBFC), incorporated in 1969, focusing on Power Sector Financing and Development across India.
- It comes under the purview of the Ministry of Power.
- It has been appointed as a Nodal Agency for Government of India's flagship schemes as following:
  - ✓ Pradhan Mantri Sahaj Bijli Har Ghar Yojana (SAUBHAGAYA)
  - ✓ Deen Dayal Upadhaya Gram Jyoti Yojana (DDUGJY)
  - ✓ National Electricity Fund (NEF)
  - ✓ REC also assists the Ministry of Power in monitoring the Ujjwal Discom Assurance Yojana (UDAY).

**Benefits to Maharatna Status to REC:**

- The Board of a 'Maharatna' CPSE can make equity investments to undertake financial joint ventures and wholly-owned subsidiaries and undertake mergers and acquisitions in India and abroad, subject to a ceiling of 15% of the Net Worth of the concerned CPSE, limited to ₹5,000 crores in one project.
- The Board can also structure and implement schemes relating to personnel and Human Resource Management and Training.
- REC now can also enter into technology Joint Ventures or other strategic alliances among others.

**Maharatna Status:**

- The Maharatna dispensation was ushered in by the Union government for mega Central Public Sector Enterprises (CPSEs) to become global giants (introduced in 2010).
- CPSEs are those companies in which the direct holding of the Central Government or other CPSEs is 51% or more.
- "Maharatna" status is granted to a company which has recorded more than Rs. 5,000 crores of net profit for three consecutive years, an average annual turnover of Rs. 25,000 crore for three years or should have an average annual net worth of Rs. 15,000 crore for three years. It should also have global operations or footprints.

- A CPSE should also have a Navratna status, be listed on an Indian stock exchange.

Classification of CPSEs			
Category	Launch	Criteria	Examples
Maharatna	<ul style="list-style-type: none"> <li>○ <b>Maharatna Scheme</b> was introduced for CPSEs in May, 2010, in order to <b>empower mega CPSEs to expand their operations and emerge as global giants.</b></li> </ul>	<ul style="list-style-type: none"> <li>○ Having <b>Navratna status.</b></li> <li>○ Listed on Indian stock exchange with minimum prescribed public shareholding under <b>Securities and Exchange Board of India (SEBI)</b> regulations.</li> <li>○ An <b>average annual turnover of more than Rs. 25,000 crore</b> during the last 3 years.</li> <li>○ An average annual <b>net worth of more than Rs. 15,000 crore</b> during the last 3 years.</li> <li>○ An average <b>annual net profit after tax of more than Rs. 5,000 crore</b> during the last 3 years.</li> <li>○ Should have <b>significant global presence/international operations.</b></li> </ul>	<ul style="list-style-type: none"> <li>○ Bharat Heavy Electricals Limited, Bharat Petroleum Corporation Limited, Coal India Limited, GAIL (India) Limited, etc.</li> </ul>
Navratna	<ul style="list-style-type: none"> <li>○ <b>Navratna Scheme</b> was introduced in 1997 in order to identify CPSEs that enjoy comparative advantages in their respective sectors and <b>to support them in their drive to become global players.</b></li> </ul>	<ul style="list-style-type: none"> <li>○ The <b>Miniratna Category – I and Schedule ‘A’ CPSEs, which have obtained ‘excellent’ or ‘very good’ rating</b> under the Memorandum of Understanding system in three of the last five years, and have composite score of 60 or above in the <b>six selected performance parameters</b>, namely, <ul style="list-style-type: none"> <li>○ Net profit to net worth.</li> <li>○ Manpower cost to total cost of production/services.</li> <li>○ Profit before depreciation, interest and taxes to capital employed.</li> <li>○ Profit before interest and taxes to turnover.</li> <li>○ Earning per share.</li> <li>○ Inter-sectoral performance.</li> </ul> </li> </ul>	<ul style="list-style-type: none"> <li>○ Bharat Electronics Limited, Hindustan Aeronautics Limited, etc.</li> </ul>
Miniratna	<ul style="list-style-type: none"> <li>○ <b>Miniratna scheme</b> was introduced in 1997 in pursuance of the policy objective <b>to make the public sector more efficient and competitive</b> and to grant enhanced autonomy and delegation of powers to the profit-making public sector enterprises.</li> </ul>	<ul style="list-style-type: none"> <li>○ <b>Miniratna Category-I:</b> The CPSEs which have <b>made profit in the last three years continuously</b>, pre-tax profit is Rs.30 crores or more in at least one of the three years and have a positive net worth are eligible to be considered for grant of Miniratna-I status.</li> <li>○ <b>Miniratna Category-II:</b> The CPSEs which have <b>made profit for the last three years continuously and have a positive net worth</b> are eligible to be considered for grant of Miniratna-II status.</li> <li>○ Miniratna CPSEs <b>should have not defaulted in the repayment of loans/interest payment on any loans</b> due to the Government.</li> <li>○ Miniratna CPSEs <b>shall not depend upon budgetary support or Government guarantees.</b></li> </ul>	<ul style="list-style-type: none"> <li>○ <b>Category-I:</b> Airports Authority of India, Antrix Corporation Limited, etc.</li> <li>○ <b>Category-II:</b> Artificial Limbs Manufacturing Corporation of India, Bharat Pumps &amp; Compressors Limited, etc.</li> </ul>

## 12. Global Financial Centres Index:

- Recently, **New York** topped the 32nd edition of the **Global Financial Centres Index (GFCI 32)** as the most favoured financial centre in the world.
- The **Global Financial Centres Index** compares the competitiveness of the leading financial centres across the world. It ranks these financial centres based on insights from online questionnaire and over 100 indices from organizations like the **World Bank**, the **Organization for Economic Co-operation and Development (OECD)** and the Economist Intelligence Unit. The inaugural edition was published in March 2007.

- It is published twice a year. Since 2015. It has been jointly published by Z/Yen Group in London and the China Development Institute in Shenzhen. The latest edition rated 119 centres using 66,121 assessments from 11,038 financial professionals.

#### **Key Points:**

- The top three most favored financial centres in the world are New York, London and Singapore.
- New York has retained the top position for the past four years.
- Singapore has overtaken Hong Kong to the third rank.
- Hong Kong, on the other hand, was ranked at the fourth position.
- San Francisco was stood at the fifth position in this ranking.
- Paris has returned to the top 10 by replacing Tokyo.
- Moscow has fallen 22 places to the 73rd rank because the Russian invasion of Ukraine and the diplomatic crisis caused by it.
- Performance in the Asia-Pacific centres was balanced, with 50 per cent of these centres maintaining or improving their rank and the rest falling in their rankings.
- In China, the financial centres' rankings are improving. Hong Kong, Shanghai, Beijing and Shenzhen are among the top 10 performers. Guangzhou, Chengdu and Qingdao are among the top 50 global financial centres.
- In India, New Delhi and Mumbai are ranked 68th and 70th ranks respectively.
- Cities like Seoul, GIFT-City-Gujarat (Gujarat International Finance Tec-City) and Kigali are expected to grow significantly in the next two years.
- The average rating of centres in GFCI 32 has improved 4.83 per cent from the previous edition, regaining the average ratings last recorded in GFCI 27 in March 2020.
- This means that there is confidence in financial centres themselves despite economic and energy instability, inflation and Russian war in Ukraine.

#### **Organisation for Economic Cooperation and Development:**

- The OECD is an intergovernmental economic organisation, founded to stimulate economic progress and world trade.
- Most OECD members are high-income economies with a very high Human Development Index (HDI) and are regarded as developed countries.
- Founded: 1961.
- Headquarters: Paris, France.
- Members: 38 countries
- India is not a member, but a key economic partner.

#### **Reports and Indices by OECD:**

- Government at a Glance 2017 report.
- International Migration Outlook.
- OECD Better Life Index.

#### **13. 300 in Wipro fired for moonlighting:**

- IT major Wipro has terminated the services of 300 employees after they were found working for a rival firm while being on the company's payroll.
- **Moonlighting** policy allows an employee to work besides his full-time job at a company and remote working has helped employees take up this option. Technology and

software companies in India are divided on whether to allow their employees to moonlight for other companies while still being on their payrolls or not.

- The definition of moonlighting itself is having another job secretly. As part of transparency, individuals can have candid and open conversations around playing in a band or working on a project over the weekend.

#### **14. SCALE app:**

- The SCALE (Skill Certification Assessment for Leather Employees) app was launched recently.

#### **About the App:**

- Developed by the Leather Sector Skill Council.
- The Leather Sector Skill Council (LSSC) is a non-profit organisation dedicated to meet the demand for skilled workforce in the leather industry in India.
- LSSC was set up in 2012 as one of the key sector skill councils approved by National Skill Development Corporation (NSDC).
- The App will provide a one-stop solution for the skilling, learning, assessment, and employment needs of the leather industry.
- It will allow people from all age groups interested in leather craft to access online live streamed classes from the state-of-the-art studio at its office.

#### **Significance:**

- This will boost the efforts to strengthen the leather skilling ecosystem.
- It will help inch closer to fulfilling our Hon'ble Prime Minister's vision of making 'Atma Nirbhar Bharat' the 'Skill Capital of the World'.

#### **15. ADB releases updated Asian Development Outlook:**

- Recently, Asian Development Outlook (ADO) 2022 was released.

#### **Key findings:**

- For the first time in 30 years, rest of developing Asia will grow at faster pace than China.
- Previously, when China's growth fell to 3.9 per cent in 1990, the GDP of the rest of Asia witnessed a 6.9 per cent growth.
- The report has cut the growth predictions of Asia's developing economies because China's zero-COVID-19 policy.
- The ADB has slashed its 2023 forecast for China's economic growth to 4.5 per cent from 4.8 in April. This is mainly because of the falling external demand minimising investment in manufacturing.
- Asia's economy is recovering because of revival of the tourism sector. However, external factors are slowing the overall growth.
- It is estimated that the Asian economies would grow by 4.3 per cent in 2022 and 4.9 per cent in 2023. This is fall from the previous estimation of 4.6 per cent and 5.2 per cent respectively.
- The latest Outlook also predicted that the pace of rising prices rise to 4.5 per cent in 2022 and 4 per cent in 2023. This is an increase from July's 4.2 per cent and 4.5 per cent respectively.

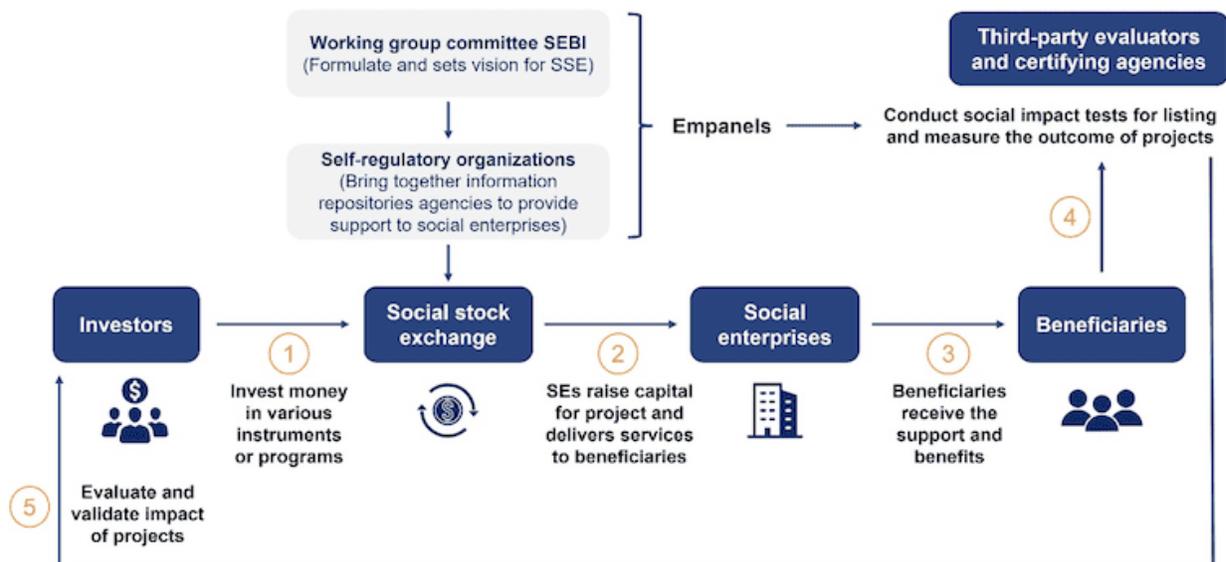
- The central banks in the region are increasing their policy rate in response to the inflation spiking above the pre-pandemic levels.
- This has caused tightened financial conditions amid a slow economic growth and accelerated monetary tightening by the Federal Reserve.

#### Asian Development Bank (ADB)

- **About:** It is a regional development bank established on 19th December 1966. The ADB was modelled closely on the World Bank.
- **Headquarters:** Manila, Philippines.
- **Members:** 68 members, 49 from within Asia.
  - Japan holds the largest proportion of shares in ADB followed by the USA, because Japan is one of the largest shareholders of the bank, the president has always been Japanese.
- ADB is an official United Nations Observer.
- ADB assists its members, and partners, by providing loans, technical assistance, grants, and equity investments to promote social and economic development.
- **Aim:** To promote social and economic development in Asia.
  - It is committed to achieving a prosperous, inclusive, resilient, and sustainable Asia and the Pacific while sustaining its efforts to eradicate extreme poverty.

#### 16. New Framework for Social Stock Exchange:

- Recently, the Capital markets regulator Sebi on Monday came out with a detailed framework for social stock exchange, specifying minimum requirements for a Not-for-Profit Organisation (NPO) for registering with the bourse and disclosure requirements. This came after the Securities and Exchange Board of India (Sebi), in July, notified rules for Social Stock Exchange (SSE) to provide social enterprises with an additional avenue to raise funds.
- SSE is a novel concept in India and such a bourse is meant to serve the private and non-profit sectors by channelling greater capital to them. The idea of SSE was first floated by
- Finance Minister Nirmala Sitharaman in her Budget speech for the financial year 2019-20.



### What is a Social Stock Exchange (SSE)?

- The idea of social stock exchange (SSE) was first introduced by Finance Minister Nirmala Sitharaman during the 2019-20 budget speech. It is the public listing of **Not for Profit Organization (NPO)** on stock exchanges.
- The NPOs are establishments involved in the welfare of society or community. They are set up as charitable organizations. The SSE aims to provide them with alternative fund-raising instrument.
- The investors can claim tax benefits for making contributions via the SSE. Similar mechanism is available in countries like the United Kingdom, Canada and Brazil.

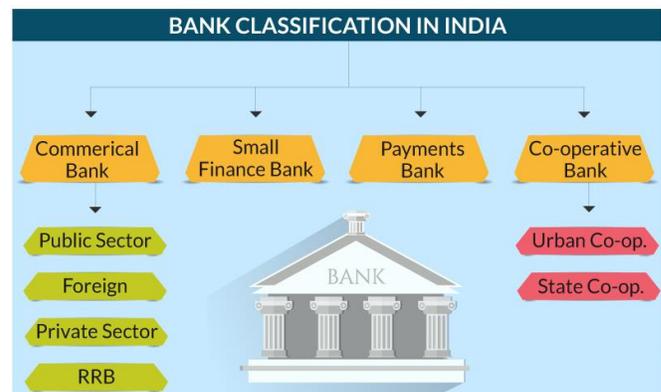
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#### **Key facts:**

- Under the new rules, the Social Stock Exchange (SSE) will be a separate segment from existing stock exchanges.
- Social enterprises eligible to participate in the SSE must be not-for-profit organizations and for-profit social enterprises having social intent and impact as their primary goal.
- These enterprises must focus on eligible social objectives for the development and welfare of undeserved and less privileged populations or regions.
- The new framework specifies the minimum requirements of the not-for-profit organizations (NPOs) for registering with the bourse as well as the disclosure requirements.
- The NPOs must disclose funds raised through the issuance of zero-coupon zero-principal instruments.
- The Listed NPOs are mandated to submit a statement of utilization of funds to the SSE within 45 days from the end of quarter.
- Social enterprises raising funds using SSEs are also required to provide Annual Impact Report within 90 days from the end of financial year.
- This report must highlight the qualitative and quantitative aspects of the social impact created by the NPOs. If possible, it must also capture the impact generated by the project or solutions for which funds were raised on SSE.

#### **17. UCBs to set up Board-approved policy, compliance function:**

- Recently, the **Reserve Bank of India (RBI)** has asked urban co-operative banks (UCBs) with more than ₹10,000 crore deposits (Tier 4 category) to put in place a Board-approved policy and a Compliance Function, including the appointment of a Chief Compliance Officer (CCO) latest by April 1, 2023.
- **Primary Cooperative Banks** (popularly known as **Urban Cooperative Banks or UCBs**) are cooperative societies registered under provisions of the respective State Cooperative Societies Act or Multi-state Cooperative Societies Act, 2002. UCBs are supervised under the Registrar of Cooperative Societies. However, the power to issue banking licenses and regulate, supervise and develop



banking functions of UCBs are vested with the RBI by virtue of the Banking Regulation (BR) Act, 1949.

### 18. Digital banking Units:

- Recently, as many as 75 digital banking units were launched across India.

#### What are these digital banking units (DBUs)?

- A digital banking unit is a specialised fixed point business hub, which houses digital infrastructure for delivering digital banking products and services. It also provides assistance to existing financial products digitally in self-service mode at any time. In April, the Reserve Bank of India (RBI) announced the guidelines for DBUs, following the report of a working group of the Indian Banks Association (IBA).

#### Who will set up these DBUs?

- The units were set up in collaboration with over 20 public and private banks. The brick-and-mortar outlets are equipped with tablets and internet services which will help individuals and small businesses open their savings accounts, access government schemes, make transactions and avail of loans and insurance.
- The units will also offer a digital assistance zone to answer queries from individuals and small businesses and hear their grievances. Also, self-service mode will be available 24x7x365 days.

### 19. International Equal Pay Day:

- The International Equal Pay Day is observed on September 18 every year.
- The International Equal Pay Day is observed to highlight the issue of gender pay gap and raise awareness about the same at the international level.
- It seeks to put an end to the problem of women getting lesser salaries than their male counterparts.
- It builds on the United Nations' commitment towards promoting human rights and fighting all forms of discrimination, including those targeting women and girls.
- Significance:
- The International Equal Pay Day provides global platform for women to raise the issue of gender pay gap through various campaigns. It encourages people across the globe to come together and identify strategies to achieve the goal of equal pay.
- Ensuring equal pay for both men and women can contribute towards a just society where everyone have equal opportunities. Businesses will also benefit from providing equal pay as it could improve their productivity and efficiency by attracting the best talent and reduce the risk of staff turnover.
- It would be a critical step towards achieving women empowerment in patriarchal societies.

#### Equal Pay International Coalition:

- The **Equal Pay International Coalition - EPIC** - is an initiative driven by stakeholders committed to reduce the gender pay gap and make equal pay for work of equal value a reality across all countries and sectors.
- Led by the ILO, UN Women and OECD, the Coalition engages with governments, employers, workers and their organizations, the private sector, civil society and

academia to take concrete steps to accelerate the closing of the gender pay gap and the achievement of pay equity.

- EPIC contributes to the achievement of Sustainable Development Goals (SDGs) target 8.5 focusing on equal pay between women and men for work of equal value.
- The EPIC Secretariat is composed by ILO, UN Women and OECD.

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20. **Market-Based Economic Dispatch (MBED) mechanism:**

- The **Market-Based Economic Dispatch (MBED) mechanism** envisages centralised scheduling for dispatching the entire annual electricity consumption of around 1,400 billion units.
- **MBED** mechanism proposes a **centralised scheduling of power** dispatches, both inter-state and intra-state.
- It will mark a clear shift from a decentralised model which is backed by **Electricity Act, 2003**.
- MBED is a way forward to deepen power markets in line with the Centre's '**One Nation, One Grid, One Frequency, One Price**' formula.
- It will ensure that the cheapest electricity generating resources across the country are supplied to meet the overall system demand and will therefore be a win-win for both the distribution companies and the generators and result in savings for consumers.
- The implementation of the first phase of MBED was earlier planned to start with effect from April 1, 2022. However, it was put off for later in 2022, the date for which is yet to be announced.

**Concerns Associated with the MBED:**

- MBED will have effect on the relative autonomy of states in managing their electricity sector, including their own generating stations, and make the Electricity Distribution Companies (DISCOMs) (mostly state-owned) entirely dependent on the centralised mechanism.
- **MBED is inconsistent with the constitutional provisions**, existing legislative framework and market structure, and could end up creating more challenges than it resolves as it infringes on the autonomy of states.
- The concerns regarding the viability of DISCOMs really need to be tackled.
- Currently, power is in the Concurrent List of the Constitution, with the electricity grid being divided into state-wise autonomous control areas managed by the State Load Dispatch Centres (SLDCs), which in turn are supervised by Regional Load Dispatch Centres (RLDCs) and the National Load Dispatch Centre (NLDC).
- Each control area is responsible in real time for balancing its demand with generation resources.
- The new model will narrow the multiple options currently available under the voluntary market design with day-ahead contracts turning redundant.
- For instance, the **DISCOMs** and **SLDC** wouldn't be able to buy or sell power in the real-time market.
- It could potentially clash with emerging market trends i.e., increase in renewable energy in the overall generation mix and the increasing numbers of electric vehicles plugging into the grid.
- All of these actually necessitate greater decentralisation of markets and voluntary pools for efficient grid management and operations.

- India has a diversified electricity market ranging from long-term power purchase agreements (PPAs), cross border PPAs, short and medium term bilaterals, day-ahead power exchange, and a real-time online market.
- Around 87% of the installed power is tied up under long term PPAs and the remaining is transacted in the power markets.
- At present, each control area or state follows merit-order dispatch (cheapest power dispatched first) from the basket of intra-state and inter-state resources and buys or sells on the day-ahead power exchange. The schedules under long-term PPAs can be revised.
- However, this feature of pan-India visibility of the available tradable power on a daily basis on the power exchange will not be available as per the MBED model.
- The must-run status of some power stations such as Trombay TPS, Mumbai or the Dadri TPS in the NCR region will come under question.
- These power stations are critical for security of supply to key cities such as Mumbai or Delhi and in islanding operations in the event of a grid failure.
- The proposed **Bilateral Contract Settlement (BCS) mechanism** under the scheme for refunding the difference between the Market Clearing Price and the contract price under the PPA, primarily to keep the PPA prices intact, is another challenge.
- This will dilute the objective of “market-driven prices” while complicating the entire accounting and settlement process.
- Further, it will erode the sanctity of time tested PPAs and create a volatile wholesale market.

## 21. National Logistics Policy:

- Recently, the Government has launched a National Logistics Policy (NLP) 2022, aiming to achieve ‘quick last-mile delivery’, end transport-related challenges.
- Logistics encompasses planning, coordinating, storing, and moving resources – people, raw materials, inventory, equipment, etc., from one location to another, from the production points to consumption, distribution, or other production points.
- The term "logistics" describes the total process of controlling the acquisition, storage, and delivery of resources to their intended location.
- It entails locating potential distributors and suppliers and evaluating the viability and accessibility of such parties.

### Details about NLP 2022:

- The policy focuses on key areas such as process re-engineering, digitisation, and multi-modal transport.
- It is a crucial move as high logistics cost impacts the competitiveness of domestic goods in the international market.
- The need for a national logistics policy was felt since the logistics cost in India is high as compared to other developed economies.

### Objectives:

- Logistics costs have to be cut by half to be near global benchmarks by 2030 by reducing the cost of logistics from 14-18% of GDP to global best practices of 8%.
- Countries like the US, South Korea, Singapore, and certain European nations have such a low logistics cost-to-GDP ratio.
- The current cost is 16% of GDP.

- Being the 5th largest economy in the world, India aims to be among the top 10 in the LPI (Logistics Performance Index) by 2030. It has to match the pace of South Korea.
- In 2018, India was ranked 44th in the LPI.
- Creating data-driven Decision Support Systems (DSS) to enable an efficient logistics ecosystem.
- The policy's target is to ensure that logistical issues are minimised, exports grow manifold, and small industries and the people working in them benefit significantly.

#### Major Challenges:

- **Digital Integration System:** It will lead to seamless and faster work-flow, making logistics significantly more efficient.
- **Unified Logistics Interface Platform:** It aims to collapse all logistics and transport sector digital services into a single portal, thereby freeing manufacturers and exporters from the present tyranny of long and cumbersome processes.
- **Ease of Logistics Services:** E-Logs, a new digital platform, will allow industry to directly take up operational issues with government agencies for speedy resolution.
- **Comprehensive Logistics Action Plan:** The Comprehensive Logistics Action Plan comprising integrated digital logistics systems, standardisation of physical assets, benchmarking service standards, human resource development, capacity building, development of logistics parks, etc.

#### 22. KRITAGYA 3.0:

- Recently, the Indian Council of Agricultural Research with its National Agricultural Higher Education Project and Crop Science Division is organizing Hackathon 3.0 "KRITAGYA" on promoting 'speed breeding for crop improvement'.
- KRITAGYA is: KRI for Krishi meaning Agriculture, TA for Taknik meaning Technology and GYA for Gyan meaning Knowledge.
- In this competition, students, faculty and innovators/entrepreneurs from any university/technical institute across the country can apply and participate in the program as a group.
- Participating students can collaborate with local start-ups, students from technology institutes and can win up-to INR 5 Lakhs.
- This event is also extending the support to winners for further development in their concept propositions, its scalability and future plan in collaboration with Agri Business Incubators, MSMEs and other investors through support of ICAR.

#### 23. Damodaran Committee to boost PE/VC investments:

- The Union Finance Ministry recently set up an expert committee headed by former SEBI chief M. Damodaran to assess and recommend ways to solve regulatory issues to boost investments by private equity (PE) and venture capital (VC) in Indian startups.
- Setting up of this committee was announced by Finance Minister Nirmala Sitharaman in her FY23 budget speech.
- The expert committee would be involved in assessing regulatory policies and taxation to identify challenges and potential accelerants to facilitate ease of investing in India.

- It would review issues concerning compliances and suggest ways to accelerate the growth of alternative capital to boost participation in the VC/PE industry.
- It will also suggest measures to further boost investments into start-ups and sunrise sectors and provide recommendations for future-ready regulatory practices and adoption of international best practices.
- This will give a major boost to India's start-up ecosystems, one of the fastest growing in the world.

#### **Venture Capital:**

- Start-up companies with a potential to grow need a certain amount of investment. Wealthy investors like to invest their capital in such businesses with a long-term growth perspective. This capital is known as **venture capital** and the investors are called **venture capitalists**.

#### **24. National List of Essential Medicines:**

- Recently, The Union Health Ministry launched the new National List of Essential Medicines (NLEM), where 384 drugs have been included in this list with addition of 34 drugs, while 26 from the previous list have been dropped.
- The National List of Essential Medicines (NLEM) is a list released by the Ministry of Health and Family Welfare.
- Essential Medicines are those that satisfy the priority health care needs of the population.
- The medicines listed in the NLEM are sold below a price ceiling fixed by the National Pharmaceutical Pricing Authority (NPPA).
- In India, it was framed on the lines of the Essential Medicines List (EML) released by the WHO.
- The list is made with consideration of disease prevalence, efficacy, safety and comparative cost-effectiveness of the medicines.
- Such medicines should be available in such a way that an individual or community can afford them.
- The WHO EML is updated every two years by the Expert Committee on Selection and Use of Essential Medicines.

#### **Purpose:**

- Guide safe and effective treatment of priority disease conditions of a population.
- Promote the rational use of medicines.
- Optimize the available health resources of a country. It can also be a guiding document for:
  - State governments to prepare their list of essential medicines
  - Procurement and supply of medicines in the public sector.

#### **Criteria for a Medicine to be Included in NLEM:**

- Several factors are looked at before including a drug in the NLEM. These are:
  - ✓ **Essentiality:** A medicine may be essential considering the population at large and should fit into the definition mentioned earlier.
  - ✓ **Changing disease burden:** With time, the disease burden keeps changing in the country. At one point, TB might be more important to tackle. At the next moment, another

disease like Covid-19 may become more important. So, the prevalent disease is considered while preparing the list.

- ✓ **Efficacy and Safety:** The medicine must have "unequivocal" evidence of efficacy and wider acceptance based on its safety to be included in the list.
- ✓ **Cost-Effectiveness:** The total price of the treatment must be considered while including the drug in NLEM. Only unit price may not be the best benchmark for this.
- ✓ **Fixed Dose Combinations (FDCs):** The single-dose medicines are considered for inclusion in NLEM. FDCs are only included if they have a proven advantage concerning the therapeutic effect.
- ✓ **Turnover:** High sales turnover alone is not considered a good benchmark for inclusion in the NLEM. Other factors are also required to be essentially considered for it.

#### 25. Crop and Food Security Assessment Mission (CFSAM) report:

- Food and Agriculture Organization (FAO) and the World Food Programme (WFP) have jointly published a report titled "Crop and Food Security Assessment Mission (CFSAM) report".

##### Key Points:

- **Food insecurity:** Around 6.3 million people in Sri Lanka are experiencing moderate to severe acute food insecurity. It is expected to worsen if required social aid and job opportunities are not provided.
- **Inflation:** The severe macroeconomic crisis has resulted in acute shortages and surging prices of essential goods such as food, agricultural inputs, fuel and medicine. In August 2022, the year-on-year food inflation rate was about 94 per cent.
- **Agricultural production:** Production of paddy rice, the main staple food, is estimated to be 3 million mt in 2022 – the lowest since the 2017 drought-affected harvest. The low yield is mainly because reduced application of fertilizers.
- **Animal husbandry:** The production of maize (used as animal feed) is some 40 per cent below the past 5-year average, causing adverse impact on poultry and livestock production
- **Causes:** Almost 50 per cent decline in production is due to two consecutive seasons of poor harvest. Significant foreign exchange constraints reduced imports of food grains.
- **Forecast:** Food insecurity is expected to worsen especially from October 2022 to February 2023 lean season because of poor harvests of staple foods and the on-going economic crisis.
- **Recommendations:** Provide immediate cash-based or food assistance to vulnerable people like pregnant and lactating mothers, women-headed households and persons with disabilities. Provide immediate assistance like agricultural inputs and promote home gardens by providing fuel, transportation and other facilities.

#### 26. UNDP Human Development Index:

- Recently, Human Development Report 2021-22 has been released.
- India's rank on the Human Development Index (HDI) has slipped from 130 in 2020 to 132 in 2022, in line with a global fall in HDI scores in the wake of the Covid-19 pandemic.

##### What is Human Development Report?

- Human Development Reports (HDRs) have been released since 1990 and have explored different themes through the human development approach.
- It's published by the **Human Development Report Office for the United Nations Development Programme (UNDP)**.
- It aims to contribute toward the expansion of opportunities, choice and freedom.
- The theme for Human Development Report 2021-22 is Uncertain Times, Unsettled Lives: Shaping our Future in a World in Transformation.

#### **What is the Human Development Index?**

- HDI is a composite index that measures average achievement in human development taking into account four indicators:
- Life expectancy at birth (Sustainable Development Goal 3),
- Expected years of schooling (Sustainable Development Goal 4.3),
- Mean years of schooling (Sustainable Development Goal 4.4),
- Gross national income (GNI) (Sustainable Development Goal 8.5).

#### **Key Highlights:**

##### **Human Development Index:**

- **Drop in Life Expectancy:** A large contributor to the Human Development Index's recent decline is a global drop in life expectancy, down from 72.8 years in 2019 to 71.4 years in 2021.
- The last two years have had a devastating impact on billions of people worldwide when crises like Covid-19 and the war in Ukraine hit back to back and interacted with sweeping social and economic shifts and dangerous planetary changes.

##### **Top Performers:**

- European states were among the best overall performers, with as many as 8 in the top 10 of the list.
- These are Switzerland (1, 0.962), Norway (2, 0.961), Iceland (3, 0.959), Denmark (6, 0.948), Sweden (7, 0.947), Ireland (8, 0.945), Germany (9, 0.942) and Netherlands (10, 0.941).

##### **Asian Region:**

- At 73 and with an index value of 0.782, Sri Lanka emerged as the best performer in the Indian sub-continent. The island nation was followed by China (79 and 0.768), Bhutan (127 and 0.666), Bangladesh (129 and 0.661), India, Nepal (143 and 0.602) and Pakistan (161 and 0.544).

##### **Indian Perspective:**

- **Human Development Index:** India's HDI value stood at 0.633 in 2021, which was lower than the world average of 0.732. In 2020, too, India recorded a decline in its HDI value (0.642) in comparison to the pre-Covid level of 2019 (0.645).
- **Life expectancy:** In 2021, India's life expectancy at birth was recorded at 67.2 years.
- **Schooling:** Expected years of schooling at 11.9 years, mean years of schooling at 6.7 years,
- **Gross National Income:** The gross national income per capita stood at USD 6,590.
- **Gender Inequality Index:** India has been ranked 122 on the Gender Inequality Index.

##### **Inequality-adjusted Human Development Index:**

- The IHDI indicates a percentage loss in HDI due to inequality.
- For India, the IHDI value for 2019 is 0.537 (16.8% overall loss).

**Gender Development Index:**

- GDI measures disparities in the HDI by gender.
- For India, the GDI value for 2021 is 0.490.
- The key HDI metric where women seem to lag behind men the most is the income per capita.

Country (HDI rank)	India (#132)	World	China (#79)	Switzerland (#1)
GDI	0.849	0.958	0.984	0.967
GNI per capita for women (in 2017 PPP \$)	2,277	12,241	13,980	54,597
GNI per capita for men (in 2017 PPP \$)	10,633	21,210	20,883	79,451

**Gender Inequality Index:**

- GII presents a composite measure of gender inequality using three dimensions:
  - ✓ Reproductive health,
  - ✓ Empowerment and
  - ✓ The labour market.
- In GII, India is at the 122nd rank.

Country (HDI rank)	India (#132)	World	China (#79)	Switzerland (#1)
Maternal mortality ratio (deaths per 100,000 live births)	122	225	29	5
Adolescent birth rate (births per 1,000 women ages 15-19)	17	43	11	2.2
Share of seats in parliament (% held by women)	13	26	25	40
Female population with at least some secondary education (% ages 25 and older)	42	64	78	97
Labour force participation rate (% ages 15 and older)	19	46	62	62
GII	0.490	0.465	0.192	0.018

**Multidimensional Poverty Index (MPI):**

- MPI captures the multiple deprivations that people in developing countries face in their health, education and standard of living.
- As of 2019, India had more than 381 million who were suffering from multi-dimensional poverty.

**Note:**

- As many as 41.5 crore people exited poverty in India during the 15-year period between 2005-06 and 2019-21, out of which two-thirds exited in the first 10 years, and one-third in the next five years, according to the **global**

**Multidimensional Poverty Index (MPI).**

- The report produced by the United Nations Development Programme (UNDP) and the Oxford Poverty and Human Development Initiative (OPHI).
- It shows that the incidence of poverty fell from 55.1% in 2005/06 to 16.4% in 2019/21 in the country

Country (HDI rank)	India	Bangladesh	China	Brazil
Population in severe MPI (in %)	8.8	6.5	0.3	0.9
Population vulnerable to MPI (in %)	19.3	18.2	17.4	6.2
Population living below income poverty line (%) (PPP \$1.90 a day)	22.5	14.3	0.5	4.6

and that deprivations in all 10 MPI indicators saw significant reductions as a result of which the MPI value and incidence of poverty more than halved.

- **Improvement in MPI for India** has significantly contributed to the decline in poverty in South Asia and it is for the first time that it is not the region with the highest number of poor people, at 38.5 crore, compared with 57.9 crore in Sub-Saharan Africa.

**Planetary pressures-adjusted Human Development Index:**

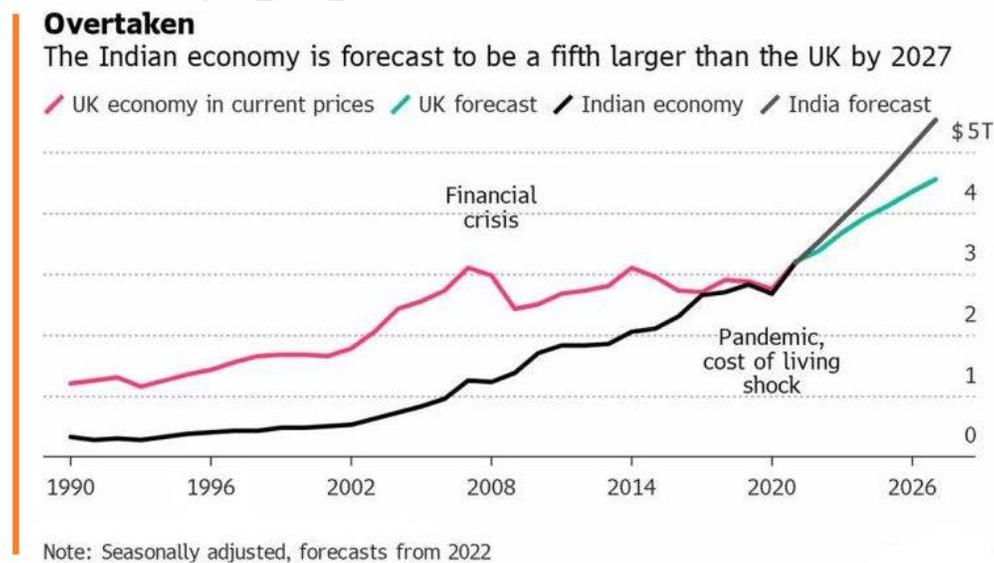
- It adjusts the HDI for planetary pressures in the Anthropocene to reflect a concern for intergenerational inequality, similar to the Inequality-adjusted HDI adjustment – which is motivated by a concern for intragenerational inequality.
- The **PHDI** value can be interpreted as the level of human development adjusted by carbon dioxide emissions per person (production-based) and material footprint per person to account for excessive human pressure on the planet.

**Planetary pressures-adjusted Human Development Index (PHDI)**

Country (HDI rank)	India	World	China	Switzerland
PHDI	0.609	0.667	0.648	0.796
PHDI (vs HDI)	Falls by 4%	Falls by 9%	Falls by 16%	Falls by 17%

**27. India becomes world’s fifth-largest economy:**

- Recently, India became the world’s fifth largest economy by overtaking the United Kingdom. Now, the United States, China, Japan, and Germany are the only nations with economies larger than India’s.
- The real Gross Domestic product (GDP) growth of 6-6.5% in a world full of uncertainties is the new normal and India is set to be the third largest economy by 2029.



### Important Points:

- **New Milestone:** Moving past one of the biggest economies in the world, especially one that ruled over the Indian sub-continent for two centuries, is a major milestone.
- **Size of Economy:** The size of the Indian economy in 'nominal' cash terms in the quarter through March, 2022 was USD 854.7 billion while for UK was USD 816 billion.
- Comparison with United Kingdom:
- **Population:** As of 2022, India has a population of 1.41 billion while the UK's population is 68.5 million.
- GDP per capita provides a more realistic comparison of income levels because it divides a country's GDP by the population of that country.
- The per capita income in India remains very low, India is ranked 122 out of 190 countries in terms of per capita income in 2021.
- **Poverty:** The low per capita incomes often point to high levels of poverty.
- At the start of the 19th century, the UK's share in extreme poverty was considerably higher than India's.
- However, the relative positions have reversed even though India has made giant strides in curbing poverty.

### **28. PM-SHRI Yojana:**

- On the occasion of National Teachers' Day, the Prime Minister has announced a new initiative – PM SHRI Schools.
- Full Form: PM ScHools for Rising India(PM SHRI)
- Nodal Ministry: Ministry of Education
- Type: Centrally Sponsored Scheme
- Aim: To upgrade and develop more than 14500 Schools across the country by strengthening the selected existing schools from amongst schools managed by Central Government/ State/ UT Government/ local bodies.

### **Key Features:**

- PM-SHRI schools will have a modern, transformational and holistic method of imparting education.
- The focus of these schools will be on modern infrastructure including latest technology, smart classrooms, sports and more.
- They will also be developed as "green schools" with water conservation, waste recycling, energy-efficient infrastructure and integration of an organic lifestyle in the curriculum.
- Hence, these schools will showcase all components of the National Education Policy 2020 and act as exemplar schools and also offer mentorship to other schools in their vicinity.

## Science and Technology

### 1. World's first CNG terminal:

- The Prime Minister has laid the foundation stone for the “world's first CNG (Compressed Natural Gas) terminal” at Bhavnagar in Gujarat.

### Page|31 About Bhavnagar Port

- **Bhavnagar** Port is a seaport in Saurashtra region of Gujarat state.
- The port is in close vicinity to the Dholera Special Investment Region(SIR) and is expected to serve the industries that set up base in the region.
- It is already connected to the northern hinterland through a railway line that extends to the existing berths at the port.

### About Bhavnagar CNG Terminal

- Bhavnagar CNG Terminal will be developed through a public-private partnership(PPP) between the Mumbai-based Padmanabhan Mafatlal Group and the UK's Foresight Group.
- The project will have a cargo handling capacity of 1.5 million metric tonnes per annum (MMTPA).

### What makes this port unique?

- The project will repair and redevelop the tidal lock gate system, which will be the fourth largest such system in the world.
- Traditionally, because of the higher tidal range of approximately 10 meters, Bhavnagar creek attracts a significant amount of sediment in the form of silt.
- This lock gate system has been set up so that a minimal amount of sediment enters the port basin during high tide, thus bringing down the cost of dredging inside the port substantially.

### Difference between CNG and LPG

CNG	LPG
Its primary use is as an alternative for fuel in automobiles.	It has various uses such as heating and cooking in homes. LPG also has industrial and agricultural uses.
The primary component in CNG is methane.	The primary component in LPG is propane and butane.
It produces relatively lower quantities of greenhouse gases (in comparison with LPG).	It produces relatively large amounts of carbon dioxide, a greenhouse gas.
It is relatively safe as it disperses rapidly into the air.	It is highly flammable as it is much heavier than air.
The primary source of obtaining CNG is from oil wells, bed methane wells, coal wells and even natural gas wells.	The main source of obtaining LPG is from the process of extracting natural gas from reservoirs.

## 2. AVGAS 100 LL:

- The Ministry of Petroleum and Natural Gas has launched indigenously-developed AVGAS 100 LL.

### What is AVGAS 100 LL?

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- AVGAS 100 LL is a special aviation fuel meant for piston engine aircrafts and Unmanned Aerial Vehicles. Currently, India is importing this product from European countries.

### What has been developed now?

- Indian Oil Corporation (IOC) has indigenously-produced AVGAS 100 LL at its Vadodara Refinery in Gujarat.
- This fuel is designed for use in turbo-charged reciprocating piston engine aircraft mainly used by Flying Training Organisations (FTOs) and defence forces for training pilots.
- It is a higher-octane Aviation fuel meeting the product specifications with superior performance quality standards as compared to imported grades.
- What is the significance of this development?
- The indigenous availability of AV GAS 100 LL will help reduce dependence on imports and address the associated logistical challenges.
- The country will be able to save precious foreign exchange with the inhouse availability of this product.

## 3. Khosta-2:

- A team of American researchers have found the **Khosta-2** in Russian bats.
- The zoonotic virus is capable of infecting humans.
- This is unlike the Khosta-1, which is also found in Russian bats but cannot easily spread to humans.
- Khosta-2 has been classified as sarbecovirus, a member of the coronavirus family.
- It is related to SARS-CoV-2, which is causing a worldwide pandemic.
- Khosta-2 was discovered in bat samples obtained from **Sochi National Park** between March and October 2020, when the world was struggling to contain the spread of the SARS-CoV-2.
- The pathogen is capable of infecting human cells similar to SARS-CoV-2. It attaches to the ACE-2 entrance enzyme, which is located on the surface of the human cells with a spike-like protein on the surface.
- While its method of infection is similar to SARS-CoV-2, Koshata-2 is not effective.
- Scientists have combined the Khosta-2 with serum obtained from individuals vaccinated against COVID-19. They found that the antibodies in the serum were not able to neutralize the pathogen.
- Similar results were found when the virus was combined with the serum from people who have recently recovered from Omicron infection.
- It is also found to be completely resistant to all coronavirus vaccines currently available on the market.
- It does not have the genes that can increase the severity of the disease like the Omicron Variant. However, this can eventually change if it mixes with the genes of the SARS-CoV-2.

### About Sarbecovirus:

- Severe acute respiratory syndrome-related coronavirus or sarbecovirus is an enveloped positive-sense, single-stranded RNA virus that enters the host cells by latching on to the ACE2 receptor. It is capable of infecting humans, bats and other mammals.

#### **Sochi National Park:**

- Sochi National Park is UNESCO world heritage site in Russia. Established in 1983, it is the oldest national park in Russia. It is situated in Western Caucasus, close to the city of Sochi.
- It is bounded by rivers Shepsi and Magri in the northwest, Abkhazia in the southeast, Black sea coast and Main Caucasian ridge in the north and south.

#### **4. China discovers new type of mineral on Moon:**

- The newly discovered crystal was named Changesite-(Y) after the Chinese moon goddess Chang'e.
- This small and transparent crystal was found among the volcanic debris of the near side of the moon.
- It is more than a billion years old and its width is almost comparable to human hair.
- It has a unique composition and is related to other minerals found only found on the lunar surface or in meteors.
- The crystal was found among the 1.8 km of lunar rocks brought back by Chang'e-5 mission in 2020.
- These samples are the first to be delivered to the Earth from Moon since 1976 and the first ever lunar samples collected by China.
- The Changesite-(Y) crystal is the sixth new mineral to be discovered on the Moon and the first identified by China. The previous 5 discoveries were made by either the United States or Russia.
- The lunar samples from Chang'e-5 also had helium-3, a version of helium that is extremely rare on Earth but highly abundant on the Moon.
- It is seen as a potential source of fuel for nuclear fusion, as it is known to emit lesser radiation and nuclear wastes than other elements.
- It is found in abundant quantities as it was deposited directly onto the lunar soil for billions of years by solar wind.
- The availability of Helium-3 on Earth is few and far between. Hence, its discovery has triggered a potential lunar resource race.
- Several space-faring nations and private companies are looking to mine the moon for Helium-3, including the US and China.

#### **About Chang'e-5 Mission:**

- The Chang'e 5 is China's first lunar sample-return mission launched in November 2020. It is China's fifth lunar exploration mission. It returned the sample back to Earth in December 2020. It is the first lunar sample-return mission since the Soviet Union's Luna 24 in 1976. With Chang'e 5 mission, China became the third country after the US and the USSR to return lunar samples to the Earth.

#### **5. Mission Integrated Biorefineries:**

- The Union Minister of Science and Technology has announced the launch of the Integrated Biorefineries Mission.
- **Aim:** Develop and demonstrate innovative solutions to accelerate the commercialization of integrated biorefineries, with a target of replacing 10% of fossil-based fuels, chemicals and materials with bio-based alternatives by 2030.
- The mission is a **PPP (Public Private Participation)** mode initiative that unites countries, international organizations, the corporate sector, academic institutions and civil society to accelerate innovation for renewable fuels, chemicals, and materials for a low-carbon future.

#### **Other Countries Involved in the Mission:**

- The other countries involved are Brazil and Canada as core members and the European Commission and the United Kingdom as supporting members.

#### **What are the other initiative?**

- **Hydrogen Valley Platform:** It is a global initiative to optimize the hydrogen demand and supply by onsite generation and utilization. The platform utilizes renewable resources effectively, and water in excess areas with geographical identity.

#### **National Funding Opportunity on Sustainable Aviation Fuels:**

- It aims to support and conduct RD&D (Research, Development & Demonstration) to foster technological innovations in advanced biofuels for aviation applications.

#### **Three Material Acceleration Platforms(MAP):**

- It has been set up by the Department of Science and Technology (DST).
- These platforms would leverage emerging capabilities in next-generation computing, artificial intelligence (AI) and machine learning and robotics to accelerate the pace of materials discovery up to 10 times faster.

#### **6. Plan-based meat products:**

- Agricultural and Processed Food Products Export Authority (APEDA) has facilitated the export of the first consignment of plant-based meat products under the Vegan food category from Gujarat to the United States of America (USA).

#### **What are Plant Based meat products?**

- Plant-based meat is basically meat derived from plants. It is manufactured to taste, look, and feel like traditional meat from animal products.
- Plant-based meat is healthier than regular meat as it is lower in calories and saturated fats.

#### **Significance of the Plant-based meat industry:**

- According to Forbes, India is the largest producer of pulses in the world, accounting for 25% of the total output; however, more than 70% of the people in India are protein deficient.
- Deficiency can be caused by a lack of awareness and less consumption of a sufficient amount of protein on a regular basis.
- Plant-based protein sources can play a vital role in treating deficiency as they not only offer varieties but are also pocket-friendly.

#### **What is the difference between Plant-based and cultured meat?**

- Plant-based meats are made of plant-derived ingredients but are designed to look and taste like real meat.

- Cultured meat, on the other hand, is a fairly new concept that refers to meat grown in a lab from a small sample of cells taken from an animal.
- The procedure requires the extraction of stem cells from a donor animal, which then proliferate to produce animal tissue structures.

#### **Virtual autopsy:**

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- Virtual autopsy is a virtual alternative to a traditional autopsy, conducted with scanning and imaging technology. In a virtual autopsy, doctors use radiation to examine the innards to reach a conclusion about the cause of death. A CT scan or an MRI machine could be used, in the same way that they are used to scan a living human's body.

#### **Advantages of a virtual autopsy:**

- Virtual autopsy is a **non-invasive** technique where non-intrusive human autopsies are performed by using a **CT Scanner** to obtain a detailed view of the body.
- Virtual Autopsy creates digital and permanent records of the body, making it easier for pathologists and clinicians to communicate with each other.
- Real samples are hard to transport and share, while the digital image of the body can be shared electronically among medical professionals and experts and can be stored for future retrieval and re-examination.
- Doctors can conduct a Virtual Autopsy remotely. This means that hospitals centres with CT scanners can take advantage of Virtual Autopsy even though they may not have an in-house pathologist.
- The legal system can also benefit from this technology as the 3-dimensional images can easily be shown in courtrooms and spare people from having to look at the traditional autopsies' gruesome pictures of the victim's body. The images from a Virtual Autopsy can be made interactive, helping the judge and jury understand some technical facts.
- **Virtual Autopsy** can prove to be cheaper than conventional autopsies in some cases, with fewer resources needed and simpler to perform.
- A Virtual Autopsy leaves the body intact, so it would not add to the grief of the victim's family. This also overcomes the obstacles presented by religions that forbid cutting of the deceased.
- A Virtual Autopsy is also a good method to contain/eliminate cross contamination and infection, as all deceased are scanned in a body bag.
- Virtual Autopsy lowers the risk of contaminating pathologists and other medical personnel.

#### **Disadvantages of a Virtual autopsy:**

- Virtual autopsy is expensive and include high equipment and technology costs.
- Virtual autopsy need skills and training to deduce from the autopsy results. Lack of experience is a disadvantage.
- Virtual autopsy is a lengthy procedure which include taking CT scan and MRI with result may take 2-3 days to come, while traditional autopsy take less time.
- Virtual autopsy is new and is not fully accurate and thus may lead to false diagnosis and judgements.
- Merging data from multiple techniques will always result in some loss of precision. A reliance on imagery alone may lead to omissions.
- No proper validation of the method has been made using closely prepared prospective studies.

- The process of a standard autopsy can damage or destroy evidence of the cause and manner of death due to the elaborate, intense and timely surgical procedure. In light of this unfortunate and common issue, a new technology has been recently and particularly developed to eliminate hands-on autopsies i.e. virtual autopsy, which have a lot of potential applications.

### 7. "The Merge" of the Ethereum:

- Ethereum blockchain platform fully transitioned from 'proof of work' to a 'proof-of-stake' consensus mechanism and this revamp is known as the Merge.
- Ethereum is a decentralized cryptocurrency, meaning that it does not have institutions like banks approving the transactions that happen on its network.
- The approvals happen under the Proof of Work(PoW) consensus mechanism which was essentially done by miners.
- Under it, the miners would compete to solve complex mathematical puzzles using a massive infrastructure of cutting-edge computer hardware, and the first one to solve the puzzle would be chosen as the validator.
- This method was almost entirely dependent on crypto farms which are massive warehouses lined with rows of computers which would solve the puzzles.

#### What are the issues with this mechanism?

- These mining farms were energy guzzlers and they sometimes consumed more electricity than entire countries and were, therefore, a big concern in terms of environmental sustainability.
- For instance, the crypto's total annualized power consumption nearly matches that of Finland, while its carbon footprint is comparable to Switzerland.

#### What has changed now?

- Ethereum has decided to set aside the need for crypto miners and gigantic mining farms which had previously driven the blockchain under a mechanism called 'proof-of-work' (PoW).
- Instead, it has now shifted to a 'proof-of-stake' (PoS) mechanism that assigns 'validators' randomly to approve transactions and earn a small reward.

#### How is the new method significant?

- 1) It would entirely eliminate the need for miners on the Ethereum network,
- 2) It will reduce Ethereum's energy consumption by nearly 99.95%, and
- 3) It will make transactions on the Ethereum network extremely secure.

### 8. Lassa fever in Nigeria:

- One of the three persons diagnosed with Lassa fever in the UK has died. The cases have been linked to travel to west African countries.
- Lassa fever-causing virus is found in West Africa. It was first discovered in 1969 in Lassa, Nigeria. The Lassa virus is named after a town in Nigeria where the first cases were discovered.

#### Human Transmission:

- A person can become infected if they come in contact with household items or food that is contaminated with the urine or faeces of an infected rat.
- It can also be spread if a person comes in contact with a sick person's infected bodily fluids or through mucous membranes such as the eyes, nose or mouth.

- Person-to-person transmission is more common in healthcare settings.
- ✓ **Symptoms:** Symptoms typically appear 1-3 weeks after exposure. Mild symptoms include slight fever, fatigue, weakness and headache and more serious symptoms include bleeding, difficulty breathing, vomiting, facial swelling, pain in the chest, back and abdomen and shock.
- ✓ **Deaths:** The death rate associated with this disease is low, at around 1%. But the death rate is higher for certain individuals such as pregnant women among others.
- ✓ **Treatment:** The antiviral drug ribavirin seems to be an effective treatment for Lassa fever if given early on in the course of clinical illness

### 9. International Treaty on Plant Genetic Resources for Food and Agriculture:

- The Union Minister of Agriculture and Farmers Welfare has inaugurated the Ninth Session of the Governing Body of the International Treaty on Plant Genetic Resources for Food and Agriculture (ITPGRFA) in New Delhi.

#### What is the International Treaty on Plant Genetic Resources for Food and Agriculture (ITPGRFA)?

- The theme aims to highlight the contribution of the world's small farmers to the effective management of PGRFA and provide an opportunity to consider how the treaty and its community can contribute to the new global biodiversity architecture.
- The major issues to be deliberated during the meeting comprise (i) Amendment of the Treaty to expand the list of crops in the multilateral system; (ii) Capacity-development strategy for the Treaty; (iii) Funding strategy, resource mobilization and the budget; (iv) Conservation and sustainable use of PGRFA and agriculture among others.

#### What are the key highlights from the minister's address at the session?

- No negotiation is possible at the cost of food security. All international forums must not forget that food is an essential fundamental right.
- Article 9 of ITPGRFA specially deals with farmers' rights and India is fully compliant with it and relevant provisions are enshrined in The Protection of Plant Varieties and Farmers' Rights (PPV&FR) Act, 2001.

#### UAE to launch its first lunar rover in November:

- The United Arab Emirates will launch its first lunar rover named Rashid from Kennedy Space Centre in Florida in November 2022.
- The rover would reach the Lunar surface aboard the Hakuto-R lander of Japan's ispace sometime in March next year.
- If this lunar mission is successful, the UAE and Japan will rank among the US, Russia and China as being the only countries to land a spacecraft on the lunar surface.
- Its destination the Lacus Somniorum - the Lake of Dreams - situated close to the lunar equator.
- The Rashid rover will study the lunar surface, mobility on the surface of the moon and how different surfaces interact with the particles on the moon.
- The rover weighs 10 kg. It would carry two high-resolution cameras, a microscopic camera, a thermal imagery camera, a probe and other devices.
- The rover is named after Dubai's former ruler Sheikh Rashid bin Saeed Al Maktoum, who is credited for the transformation of Dubai from a small cluster of settlements near the Dubai Creek to a modern port city and commercial hub.
- It was built at the Mohammed Bin Rashid Space Centre in Dubai.

- Earlier, the UAE launched the Hope Mission to Mars – the Arab world’s first interplanetary mission.
- It was also developed by Mohammed bin Rashid Space Centre.
- The Arab country is currently planning to achieve the ambitious goal of building a human colony on Mars by 2117.

**Page|38 About HAKUTO-R lander:**

- The HAKUTO-R lander was built by the Japanese company ispace. The Rashid rover would be the first Moon trip for HAKUTO-R, which has been under development for more than 10 years.

**10. INSPIRE Awards conferred to 53,021 students across India:**

- The Innovation in Science Pursuit for Inspired Research (INSPIRE) scheme has been implemented by Indian Government’s Department of Science and Technology (DST) to encourage people aging 10 to 32 years to pursue science and a career in research.
- Its purpose is to attract talent to science at an early age and create the required resource pool for strengthening the science and technology system and research and development base in the country.
- It has three components – Scheme for Early Attraction of Talent (SEATS), Scholarship for Higher Education (SHE) and Assured Opportunity for Research Careers (AORC).

**About INSPIRE Award – MANAK:**

- The Indian Government confers INSPIRE Award – MANAK (Million Minds Augmenting National Aspiration and Knowledge) every year under the SEAT Program.
- Under the INSPIRE AWARDS – MANAK Scheme, students across India are encouraged to send original and creative technological ideas or innovations that can solve common problems.
- The chosen ideas will be provided with complete incubation support required to promote the entrepreneurial journey of students.
- This scheme has attracted 6.53 Lakh ideas and innovations from across India in 2020-21 – the highest till date.
- It represented ideas and innovations from 702 districts (96%) in India.
- This includes 123 of the 124 aspirational districts, 51 per cent representation from girls, 84 per cent from schools in rural regions and 71 per cent of schools run by state/UT governments.
- Of the 6.53 lakh students, 53,021 students have been provided with the financial support of Rs.10,000 to help them develop prototypes for the ideas they submitted.

**11. Sova virus in India:**

- Indian Computer Emergency Response Team (CERT-IN) has given advisory on **SOVA virus** – a novel mobile banking “Trojan” virus that is currently targeting Indian customers.

**What is SOVA?**

- SOVA is a new mobile banking ‘Trojan’ virus.
- Trojan is a file, program, or piece of code that appears to be legitimate and safe but is actually malware. Malware is software intentionally designed to cause disruption to gain unauthorized access to information or systems.

**How is SOVA targeting users?**

- SOVA malware hides itself within fake Android applications that show up with the logo of a few famous legitimate apps like Chrome, Amazon, NFT (non-fungible token linked to cryptocurrency) platform to deceive users into installing them.
- Once the fake android application is installed on the phone, it sends the list of all applications installed on the device to the C2 (command and control server) controlled by the threat actor in order to obtain the list of targeted applications.

#### **What information can SOVA collect?**

- SOVA can collect keystrokes, steal cookies, intercept multi-factor authentication (MFA) tokens, take screenshots and record video from a webcam and can perform gestures like screen click, swipe using the android accessibility service. It also has the capability to encrypt all data on an Android phone and hold it to ransom.

#### **Can this application be deleted from the phone?**

- SOVA protects itself from different victim actions For example, if the user tries to uninstall the malware from the settings or pressing the icon, SOVA is able to intercept these actions and prevent them by returning to the home screen and showing a toast (small popup) displaying “This app is secured”.

### **12. Hughes-ISRO satellite internet service:**

- HCI – a joint venture company of **US-based Hughes Network Systems** and Indian telecom operator Bharati Airtel – launched the first high throughput satellite broadband internet service in India.
- This service would provide satellite internet to remote parts of India by using ISRO’s GSAT-11 and GSAT-29 satellites.
- ISRO launched the GSAT-11 and GSAT-29 in 2018 to provide higher bandwidth satellite connectivity to Indian clients in the space enterprise. The GSAT-11 is capable of providing up to 14 Gbps through satellite network.
- The newly launched HTS broadband service aims to provide high-speed broadband in regions that are inaccessible for terrestrial networks.
- For the past one year, this high-speed internet service was tested in several regions such as Jammu and Kashmir and Himachal Pradesh, which lack terrestrial connectivity because of challenges posed by terrains.
- The newly launched satellite internet service is capable of providing internet connectivity bandwidth of up to 100 Mbps – about 2GB data per day.
- It supports services such as Wi-Fi hotspots for community internet access, SD-WAN solutions, backhaul to extend mobile network reach and satellite internet for small businesses.
- The application of this satellite connectivity is currently limited to fringe markets such as remote locations.
- India currently does not have the market for very high bandwidth satellite internet in such regions and high bandwidth internet are already served by terrestrial network in other places that are having high demands for internet services.
- The Hughes’ HTS service already has clients like Reliance Jio, State Bank of India and others.
- Jio utilizes Hughes’ service for 4G backhaul to provide services to remote locations for its terrestrial telecom networks.

- SBI uses this satellite internet service for providing connectivity to remote bank branches and automated teller machine (ATM) outlets.

#### **High-throughput satellite**

- High-throughput satellite (HTS) is a satellite connectivity that provides higher bandwidth, which increases the amount of data that can be transferred between a satellite and a ground station. A conventional satellite connectivity has low bandwidth and high latency of connectivity – time taken to transfer data between a sender and receiver. The HTS seeks to address this issue.

### **13. TB Mukht Bharat Abhiyan 'Ni-kshay 2.0' portal:**

- Recently, to speed up the country's fight against tuberculosis (TB) and achieve the target set by the Prime Minister of eliminating the disease by 2025, President launched the Pradhan Mantri TB Mukht Bharat Abhiyan.

#### **What is Tuberculosis?**

- Tuberculosis (TB) is an infectious disease caused by Mycobacterium tuberculosis.
- It commonly affects the lungs, but can also affect other parts of the body.
- It is a treatable and curable disease.
- TB is spread from person to person through the air. When people with lung TB cough, sneeze or spit, they propel the TB germs into the air.
- Symptoms: Common symptoms of active lung TB are cough with sputum and blood at times, chest pains, weakness, weight loss, fever and night sweats.
- **Vaccine: Bacille Calmette-Guérin (BCG)** is a vaccine for TB disease.

#### **Statistics:**

- A total of 1.5 million people died from TB and an estimated 10 million people fell ill with tuberculosis (TB) worldwide in 2020.
- India has the world's highest tuberculosis (TB) burden, with an estimated 26 lakh people contracting the disease and approximately 4 lakh people dying from the disease every year.

#### **Challenges for India:**

- Major challenges to control TB in India include poor primary health-care infrastructure in rural areas of many states; unregulated private health care leading to widespread irrational use of first-line and second-line anti-TB drugs; poverty; lack of political will; and, above all, corrupt administration.

#### **Pradhan Mantri TB Mukht Bharat Abhiyan?**

- It's an initiative of Ministry of Health and Family Welfare (MOHFW) to accelerate the country's progress towards TB elimination by 2025.

#### **Objectives:**

- Provide additional patient support to improve treatment outcomes of TB patients
- Augment community involvement in meeting India's commitment to end TB by 2025.
- Leverage Corporate Social Responsibility (CSR) activities.

#### **Components:**

- Ni-kshay Mitra Initiative: It is to ensure additional diagnostic, nutritional, and vocational support to those on TB treatment.

- Ni-kshay Mitra (Donor) are those who can support by adopting health facilities (for individual donor), blocks/urban wards/districts/states for accelerating response against TB to complement government efforts.
- Ni-kshay Digital Portal: It will provide a platform for community support for persons with TB.

Page|41 **What are the other related Initiatives Regarding Tuberculosis?**

- The WHO (World Health Organisation) has launched a joint initiative “Find. Treat. All. #EndTB” with the Global Fund and Stop TB Partnership.
- WHO also releases the Global Tuberculosis Report.

**India’s Efforts:**

- **India’s National TB Elimination Programme** is strengthened to meet the goal of ending the TB epidemic by 2025 from the country, five years ahead of the Sustainable Development Goals (SDG) for 2030.
- National Strategic Plan (NSP) for Tuberculosis Elimination (2017-2025), The Nikshay Ecosystem (National TB information system), Nikshay Poshan Yojana (NPY- financial support), TB Harega Desh Jeetega Campaign.
- Currently, two vaccines VPM (Vaccine Projekt Management) 1002 and MIP (Mycobacterium Indicus Pranii) have been developed and identified for TB, and are under Phase-3 clinical trial.
- Ni-kshay Poshan Yojana: It provides Rs 500 support through direct benefit transfer to the patients.
- Ayushman Bharat Digital Health Mission: The government has also focused on utilising technology and creating digital health IDs for TB patients under the Ayushman Bharat Digital Health Mission to ensure proper diagnostics and treatment are available.

**14. Human Organ Transportation Drone:**

- Union Minister for Road Transport and Highways Nitin Gadkari recently inaugurated the country’s first prototype drone for transporting human organs to facilitate quick transplantation in hospitals.
- With this innovation, it will take much less time to transport the transplanted organs from airport to hospital. At present, this facility has been started by MGM Healthcare Hospital located in Chennai.
- This drone can be used to carry the organ box up to a distance of 20 km. For this, an agreement has been signed with a city-based drone company.
- This experiment will prove to be a milestone in the direction of seamless transport of organs after transplantation in this service.
- India ranks third in the world after United States and China, with a maximum of 17,000-18,000 solid organ transplants every year. And to defend such circumstances, the human organ transportation drone can be a boon.

**Organ Transplantations in India:**

- Globally, Spain has the highest organ donation rate at about 34 donors per million, while India has nearly 0.03 donors per million. In India, Tamil Nadu has a highest number of organ donations.
- India needs an estimated 6 lakh kidney donations annually, only 6,000 kidney transplants take place. The number of heart transplants is just inching close to 500.
- National Organ and Tissue Transplant Organization (NOTTO) under the ministry of health and family welfare was setup in 2014 to oversee the process of Organ

transplantation. Under NOTTO two organizations are present, namely, Regional Organ and Tissue Transplant Organization (ROTO) and SOTTO (State Organ and Tissue Transplant organization)

#### 15. Expert committee to study human rabies deaths:

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- Recently, Kerala Health Minister has issued orders to set up an expert committee to study human rabies deaths in Kerala following a rise in cases of stray dog bites in Kerala.
- The minor was bitten on August 14 when she had gone out to buy milk and had six wounds, including one on her face. He died during treatment at the Kottayam Medical College Hospital. The thing to note here is that this girl had also been vaccinated against rabies, yet she died.
- According to the Kerala Health Ministry data, more than 95,000 people were bitten by dogs in eight months this year and 14 people died compared to 11 last year. Of the 14 deaths, five had taken the rabies vaccine.
- The figures for the last five years also show that the cases in the state have been rising steadily: from 1,48,899 in 2019 to 1,21,529 as of August 2022. Rabies deaths are also on the rise: from nine cases in 2018 to 14 deaths in August 2022

#### Mission Rabies:

- It is a charity, initially founded as an initiative by **Worldwide Veterinary Service (WVS)**.
- It is a United Kingdom-based charity group which assists animals.
- Mission Rabies works with 'One Health approach' which is driven by research to eliminate dog bite transmitted rabies disease.
- It was launched in September 2013 with the objective of vaccinating 50,000 dogs against rabies in India. Rabies has estimated to kill 59,000 people annually.
- Mission Rabies teams have vaccinated 968,287 dogs since 2013.
- Organisation has worked in the states of Tamil Nadu, Kerala, Andhra Pradesh, Orissa, Maharashtra, West Bengal, Goa, Jharkhand, Rajasthan, and Assam.

#### About Rabies:

- As per WHO, Rabies is a vaccine-preventable viral disease that occurs in about 150 countries and territories.
- Dogs act as the source of majority of human rabies deaths. Dogs are responsible for contributing up to 99% of rabies transmissions to humans.
- In Asia and Africa regions, low awareness regarding the need of health care after dog bite takes lives of about 55000 people per year.
- India is endemic for rabies with the burden of 36% of world's deaths. 30-60% of reported rabies cases and deaths in India occur in children aged under 15 years because bite often go unrecognized and unreported.

#### 16. Maitree Super Thermal Power Project:

- Prime Minister Narendra Modi and Bangladesh Prime Minister Sheikh Hasina recently unveiled Unit-1 of Maitree Super Thermal Power Project.
- It is located at Rampal in Bagerhat district of Khulna division of Bangladesh.
- The 1320 (2×660) MW coal-fired power plant is being set up at a cost of approximately \$2 billion.

- The project is being developed under India's concessional financing scheme and will add 1320 MW to Bangladesh's national grid.
- It is being built by Bharat Heavy Electricals Limited (BHEL) for Bangladesh-India Friendship Power Company Private Limited (BIFPCL).
- The first unit of this super thermal power plant will go into commercial operation in early October and will be a major breakthrough in the growing cooperation in the Bangladesh-India power sector.
- Unit-II of the power plant, also known as the Rampal coal-fired power project, is expected to be commissioned early next year.
- Once both the units of this mega power plant are commissioned, Maitree Super Thermal Power Project will be one of the largest power plants in Bangladesh.

#### **Agreements signed between the two countries:**

- Seven agreements related to water resources, railways, science and technology and space technology etc. have been signed during India-Bangladesh bilateral talks.
- During the bilateral talks, an agreement was signed between Prasar Bharati and Bangladesh Television to enhance cooperation in the broadcasting sector.
- An important agreement was also signed on the sharing of the waters of the Kushiya River to benefit the Sylhet region of Bangladesh and the southern Assam region of India.

#### **17. NASA – Eyes on the Solar System Tool:**

- Recently NASA has updated its 3D visualization 'Eyes on the Solar System' tool. This new and improved system now makes interplanetary travel easier and more interactive than before.
- This latest edition of "Eyes on the Solar System" lets you scroll through rich interactive journeys. For example, you can enjoy Voyager's grand tour of Jupiter, Saturn, Uranus and Neptune.
- It took more than two years for the Visualization Technology Application and Development team at NASA's Jet Propulsion Laboratory and Caltech to develop the system.
- This update offers better controls, better navigation, and tons of new opportunities to learn about our own Earth, the Solar System, asteroids, and more.
- This unique 3D instrument allows real-time 3D data visualization of the past, present and future of the Solar System.
- The instrument allows multiple visualizations from all satellites on Earth in real time for air temperature, carbon-dioxide, sea wall, soil moisture, ozone, and more.
- This amazing tool allows you to explore exoplanets in 3D, the search can be filtered by planet type which includes 'Gas Giants, Terrestrial and even 'Super Earth' type planets.
- This instrument highlights stars and allows the detection of exoplanets around them. One can see the "habitable zone" around the star and if an exoplanet is in that zone.

#### **18. ISRO tests Inflatable Aerodynamic Decelerator:**

- **Indian Space Research Organization (ISRO)** has successfully demonstrated the new technology with Inflatable Aerodynamic Decelerator (IAD).
- This could aid the cost-effective recovery of spent rocket stages and safely land payloads on other planets.

#### **What is an Inflatable Aerodynamic Decelerator (IAD)?**

- Inflatable Aerodynamic Decelerator or IAD is a technique used to decelerate an object plunging down through the atmosphere.

#### **What is ISRO's IAD?**

- The ISRO's Inflatable Aerodynamic Decelerator(IAD) was designed and developed by **Vikram Sarabhai Space Centre(VSSC)** on a Rohini-300 (RH300 Mk II) sounding rocket.
- IAD was initially folded and kept inside the payload bay of the rocket. At around 84 km altitude, the IAD was inflated and it descended through the atmosphere with the payload part of the sounding rocket.
- IAD has systematically reduced the velocity of the payload through aerodynamic drag and followed the predicted trajectory.
- This is the first instance where an IAD has been specially created for spent stage recovery.

#### **Where does ISRO intend to use IAD?**

- The IAD will help ISRO in performing many space tasks effectively including recovery of spent stages of rockets, for landing payloads on missions to other planetary bodies.

#### **19. James Webb telescope captures 'Super-Jupiter':**

- Recently, the James Webb Space Telescope (JWST) captured its first image of an exoplanet at, or planet outside the Solar System.
- The captured exoplanet is named HIP 65426 b and is about six to 12 times the mass of Jupiter. It was first discovered in 2017 using the SPHERE instrument on the European Southern Observatory's Very Large Telescope.
- This young planet is a "super-Jupiter", meaning it is a gas giant that is more massive than Jupiter. It is composed of gas in origin and has no rocky surface, meaning that the found planet may not be habitable.
- Exoplanets have been observed through the telescope's four different light filters, proving how James Webb's powerful infrared technology can easily capture worlds beyond our solar system.
- NASA revealed that it is a young planet about 15 to 20 million years older than our 4.5 billion year old Earth.
- The planet is located 315 lightyears away and is orbiting at a significant distance from its Star, allowing the James Webb Space Telescope (JWST) to take a picture of the same. The distance between exoplanet and its star is about 100 times that which is between Earth and Sun.

#### **What is James Webb Space Telescope?**

- The James Webb Space Telescope is a large infrared telescope. It will study every phase in the history of universe. This includes formation of solar system, Big Bang and other theories that support life on other planets.
- The Telescope is capable of looking about the past such as the first galaxies formed in the early universe through its longer wavelengths. These wavelengths will help the telescope to peer inside dust clouds from where the planets and stars are formed.
- The telescope is to travel at a distance of 1.5 million kilometres from the earth.
- The telescope is to be launched in Ariane 5 ECA rocket from French Guiana in South America. The rocket is from the European Space Agency.

## Environment and Ecology

### 1. **Icaria: New catfish Species:**

- A new catfish species has been discovered by ICAR-NBFGR.
- The new species of catfish belongs to the genus Pangasius.
- It was found in Mettur Dam in Salem district, Tamil Nadu, by the ICAR-National Bureau of Fish Genetic Resources (ICAR-NBFGR).
- It was discovered when a team of scientists headed by director of ICAR-NBFGR visited the Mettur Dam to study the difference between the species of catfish found upstream and downstream of the River Cauvery.

#### **Mettur Dam:**

- The **Mettur Dam** is the largest dam in the southern state of Tamil Nadu. It is situated across the Cauvery River.
- It was built in 1934. It took over 9 years to complete this dam having the maximum height of 214 feet and width of 171 feet. It is the main source of irrigation in the Cauvery Delta Region in Tamil Nadu.

### 2. **Uttar Pradesh's fourth tiger reserve:**

- Recently, Uttar Pradesh (UP) approved the notification of the state's fourth tiger reserve in the Ranipur Wildlife Sanctuary (RWS) in Chitrakoot district.
- This will be the 54th Tiger Reserve in India. Guru Ghasidas National Park of Chhattisgarh is the 53rd Tiger Reserve in India.
- A Ranipur Tiger Conservation Foundation will also be established for the protection and conservation of tigers in the region.

#### **Ranipur Wildlife Sanctuary (RWS):**

- RWS founded in 1977, has no resident tiger. However, it is an important corridor for the movement of tigers, according to the Status of tigers, co-predators and prey in India report by the National Tiger Conservation Authority (NTCA).
- The Ranipur Tiger Reserve will be the fourth in UP.
- It will also be the first in the Bundelkhand region of the state.
- There is dry deciduous forest of Bamboo, Palash, Khair, Mahua, Dhau, Saal, Tendu, etc.

#### **Other Tiger Reserves in UP:**

- ✓ Dudhwa National Park
- ✓ Pilibhit Tiger Reserve
- ✓ Amangarh Tiger Reserve

### 3. **JALDOOT App:**

- ✓ Recently, the **Ministry of Rural Development** has launched the "JALDOOT App and JALDOOT App e-brochure" to capture the Ground water level in a better way.
- ✓ JALDOOT app has been jointly developed by the Ministry of Rural Development and Panchayati Raj.
- ✓ This app will be used across the country to capture the water level of selected 2-3 wells in a village.

- ✓ The app will work in both online and offline mode. So, water level can be captured even without internet connectivity and captured data will be stored in mobile and when mobile comes in the connectivity area, data will synchronize with the central server.
- ✓ The regular data to be input by the Jaldots would be integrated with the database of National Water Informatics Centre (NWIC), which can be utilized for analysis and display of various useful reports for the benefit of various stakeholders.

#### **Significance:**

- JALDOOT app will facilitate observing water tables across the country and the resulting data can be utilized for Gram Panchayat Development Plan and Mahatma Gandhi NREGA Plans.
- The app is launched to capture the water level of selected wells in a village across the country.
- JALDOOT app will allow Gram Rojgar Sahyak to measure the water level of the well twice a year pre-monsoon and post-monsoon.
- The app will ease panchayats with robust information that can be later used for better planning of works.

#### **Status of Groundwater Depletion in India:**

- According to the Central Ground Water Board (CGWB), with 230 billion metre cubes of groundwater drawn out each year for irrigating agriculture lands in India, many parts of the country are experiencing rapid depletion of groundwater.
- The total estimated groundwater depletion in India is in the range of 122-199-billion-meter cubes.
- 89% of groundwater extracted is used in the irrigation sector, making it the highest category user in the country.
- This is followed by groundwater for domestic use which is 9% of the extracted groundwater. Industrial use of groundwater is 2%. 50% of urban water requirements and 85% of rural domestic water requirements are also fulfilled by ground water.

#### **Causes:**

- Green Revolution-The Green Revolution enabled water-intensive crops to be grown in drought-prone/ water deficit regions, leading to over extraction of groundwater.
- Industries Requirement-Water contamination as in the case of pollution by landfills, septic tanks, leaky underground gas tanks, and from overuse of fertilizers and pesticides leads to damage and depletion of groundwater resources.
- Inadequate Regulation-Inadequate regulation of groundwater encourages the exhaustion of groundwater resources without any penalty.
- Federal Issue-Water being a state subject, initiatives on water management including water conservation and water harvesting and making available adequate drinkable water to citizens in the Country is primarily the States' responsibility.

#### **4. New Target under National Clean Air Programme:**

- Recently, the Centre has set a new target of a 40% reduction in particulate matter concentration in cities covered under the National Clean Air Programme (NCAP) by 2026, updating the earlier goal of 20 to 30% reduction by 2024.
- It was launched by the Ministry of Environment, Forests and Climate Change (MoEFCC) in January 2019.

- It is the first-ever effort in the country to frame a national framework for air quality management with a time-bound reduction target.
- It seeks to cut the concentration of coarse (particulate matter of diameter 10 micrometer or less, or PM10) and fine particles (particulate matter of diameter 2.5 micrometer or less, or PM2.5) by at least 20% in the next five years, with 2017 as the base year for comparison.
- It covers 132 non-attainment cities which were identified by the Central Pollution Control Board (CPCB).
- Non-attainment cities are those that have fallen short of the National Ambient Air Quality Standards (NAAQS) for over five years.
- NAAQs are the standards for ambient air quality with reference to various identified pollutant notified by the CPCB under the Air (Prevention and Control of Pollution) Act, 1981. List of pollutants under NAAQS: PM10, PM2.5, SO<sub>2</sub>, NO<sub>2</sub>, CO, NH<sub>3</sub>, Ozone, Lead, Benzene, Benzo-Pyrene, Arsenic and Nickel.

**Objective:**

- ✓ To augment and evolve effective and proficient ambient air quality monitoring networks across the country.
- ✓ To have efficient data dissemination and public outreach mechanisms for timely measures for prevention and mitigation of air pollution.
- ✓ To have a feasible management plan for prevention, control and abatement of air pollution.

**5. TamiraSES project:**

- The district administration of Tirunelveli in Tamil Nadu along with Bengaluru-based non-profit Ashoka Trust for Research in Ecology and the Environment (ATREE) are using a 'hyper local' approach to restore Thamirabarani River.

**Thamirabarani River:**

- Thamirabarani is the only perennial river in Tamil Nadu.
- It originates in the Pothigai Hills of the Western Ghats in Tirunelveli district.
- The river flows through Tirunelveli and then neighbouring Thoothukudi and ends in the Gulf of Mannar at Punakayil. It thus originates and ends in the same state.

**Significance:**

- The river supports wildlife such as the Nilgiri marten, slender loris, lion-tailed macaque, white spotted bush frog, galaxy frog, Sri Lankan Atlas moth and the great hornbill.

- Besides the ecosystem services it provides, the river also has historical value for the people of the state. It is mentioned extensively in Sangam Era literature.
- **Threats:** The River is stressed because of industrial effluent release, sewage and water hyacinth. Initial study suggests that the river gets polluted due to industrial discharge and the dumping of solid waste, especially in the form of clothes and flowers by devotees.



#### **TamiraSES project:**

- **Launched by:** District administration of Tirunelveli in Tamil Nadu along with Bengaluru-based non-profit ATREE.
- **Aim:** To restore the **Social Ecological Systems** of the Tamiraparani riverscape from head-waters to the estuary to enable conditions for native biodiversity to thrive and maintain and enhance multiple ecosystem services to local stakeholders.
- Five social ecological observatories will be set up as part of the first phase of the project. These will serve as pilots to scale up from the learnings from these sites.
- The idea is to rejuvenate not just the Tamirabarani but all the water bodies in the riverscape of Tirunelveli.

#### **6. Rhino Memorial:**

- Memorial made of ashes collected from rhino horns were unveiled recently at the Kaziranga National Park in Assam.
- The memorial having three rhino sculptures was named “Abode of the Unicorns”
- It also has three statutes of forest guards, created using different materials
- On the occasion of World Rhino Day (September 22) last year, rhino horns were burnt cinders remotely using drones at the Kaziranga National Park.

#### **About Kaziranga National Park:**

- **Location:** It is located in the State of Assam. It is the single largest undisturbed and representative area in the Brahmaputra Valley floodplain.
- **UNESCO World Heritage Site:** The Park was declared as a National Park in 1974. In 1985, the park was designated as a World Heritage Site by UNESCO. Further, it was also declared as a Tiger Reserve in 2006.
- **Important Bird Area:** It is also recognized as an Important Bird Area by Bird Life International for the conservation of avifaunal species.
- **Vegetation:** Due to the difference in altitude between the eastern and western areas of the park, here one can see mainly four types of vegetation’. This includes alluvial

inundated grasslands, alluvial savanna woodlands, tropical moist mixed deciduous forests, and tropical semi-evergreen forests.

- **Flora:** Indian gooseberry, cotton tree, and elephant apple are amongst the famous trees that can be seen in the park. Also, a good variety of aquatic flora can be seen in lakes, ponds, and along the river shores.
- **Fauna:** Along with the iconic Greater one-horned rhinoceros, the park is the breeding ground of elephants, wild water buffalo, and swamp deer. Over the time, the tiger population has also increased in Kaziranga, and that's the reason why it was declared as Tiger Reserve in 2006.

#### **Significance:**

- It is the house of two-thirds of the world's great one-horned rhinoceroses (IUCN Status-Vulnerable).
- The title Kaziranga adopts its name to Karbi, which is the name of a woman who ruled here in ancient time.
- The entire area of Kaziranga is formed by alluvial deposits from the Brahmaputra and its tributaries.
- Area under Wetland: The area under wetlands in Kaziranga has reduced from 8.5% of the total area to 6.7% over a period of 30 years till 1977.

#### **7. Fridays for Future Campaign:**

- Recently, students and youth under the banner of Fridays For Future (FFF) protested outside the Ministry of Environment, Forest and Climate Change (MoEFCC) demanding scrapping of Draft Environment Impact Assessment, 2020 and the government to act against the climate crisis.

#### **Global Climate Movement:**

- FFF is a dynamic global student movement pushing for immediate action on climate change through active campaigning and advocacy.
- The movement was inspired by Swedish teenager Greta Thunberg, who sat in protest in front of the Swedish parliament for three weeks in 2018 to draw attention to the climate emergency.
- Greta Thunberg was recently awarded the Right Livelihood Award-2019, also known as Sweden's alternative Nobel Prize.
- The FFF movement was chosen as Champion of the Earth award for inspiration and action because of its role in highlighting the devastating effects of climate change.

#### **Goals:**

- The main goals of the movement is to put moral pressure on policy-makers, to make them listen to scientists and then to take action to limit global warming.
- **Demand:** Keep the global temperature rise below 1.5°C compared to pre-industrial levels (Key outcome of Paris climate deal).
- Ensure climate justice and equity.
- Listen to the best science currently available to deal with the climate crisis.
- **Demand for Delhi:** The demand for Delhi includes saving the Aravallis, improved sewage management plants to prevent pollution of the Yamuna, public participation in policy-making and better environmental education in schools.

#### **Champions of the Earth Award:**

- It is the United Nations' flagship global environmental award. It was established by the UN Environment Programme in 2005 to celebrate outstanding figures whose actions have had a transformative positive impact on the environment.
- The awards recognize persons who are working to protect earth for the next generation.

#### 8. US Senate ratifies Kigali Amendment:

- The US lawmakers recently voted to ratify the Kigali Amendment, making this the first time in 30 years for the US to adopt an international climate treaty.
- **The treaty** – known as the **Kigali Amendment** to the 1987 Montreal Protocol – compels countries to phase out the use of the potent hydrofluorocarbons, or HFCs, which are hundreds to thousands of times as powerful as carbon dioxide in speeding up climate change.
- The United States became the **137<sup>th</sup> country to ratify the amendment** – and negotiators said the move would encourage the remaining nations to follow suit. The earlier **Montreal Protocol** clamped down on the production of ozone-depleting substances.
- The **HFCs** are thousand times more capable of trapping heat than carbon dioxide. Their emissions are thus worsening the global warming.
- Phasing out of these chemicals can prevent global temperature increasing by 0.5°C.

#### 9. Nanoplastics in human food chain:

- Researchers from the University of Eastern Finland have found that small pieces of plastic called nanoplastics can travel up the human food web, through plants, insects and even fish.

#### **Nanoplastics:**

- Nanoplastics are tiny plastic debris particles smaller than 1,000 nanometres (1 nm is equal to one billionth of a metre).
- A team of researchers developed a new, metallic fingerprint-based method to detect and measure the amount of nanoplastics in organisms.
- For their study, they applied the technique to a model food chain that contains three trophic levels (trophic level is the position an organism occupies in the food chain) – lettuce, which was the primary producer, black soldier fly larvae, the primary consumer and insectivorous fish (roach) as the secondary consumer.
- For the study, the researchers exposed lettuce plants to nano plastics and then harvested and fed it to black soldier fly larvae. The insects were then fed to the fish (roaches).
- The researchers then examined the dissected plants, insect larvae and fish. They found that nano plastics can travel up the human food web, through plants, insects and even fish.

#### **What is the significance of this study?**

- Due to their small size, nano plastics can likely pass through physiological barriers and enter organisms.
- This indicates that the presence of tiny plastic particles in soil could be associated with a potential health risk to herbivores and humans if these findings are found to be generalizable to other plants and crops and to field settings.

### 10. World's First Cloned Arctic Wolf:

- Recently, a wild Arctic wolf was successfully cloned for the first time in the world by a Beijing-based gene firm.



#### About the first cloned wolf:

- Cloned Arctic wolf is the first case of its kind in the world. It is named 'Maya'.
- The donor cell of the wolf came from the skin sample of a wild female Arctic wolf and its oocyte was taken from a female dog.
- Maya's surrogate mother was a beagle, a dog breed.
- The dog was selected as the surrogate as it shares genetic ancestry with ancient wolves and hence, ensures success in cloning.
- In 1996, Scottish scientists cloned the first animal, a sheep they named Dolly. She was cloned using an udder cell taken from an adult sheep.

#### What is Cloning?

- The term cloning describes a number of different processes that can be used to produce genetically identical copies of a biological entity.
- The copied material, which has the same genetic makeup as the original, is referred to as a clone.

#### Artificial Cloning:

- There are three different types of artificial cloning: gene cloning, reproductive cloning and therapeutic cloning.
- ✓ Gene cloning produces copies of genes or segments of DNA.
- ✓ Reproductive cloning produces copies of whole animals.
- ✓ Therapeutic cloning produces embryonic stem cells for experiments aimed at creating tissues to replace injured or diseased tissues.
- **Natural clones** (also known as **identical twins**) occur in humans and other mammals.
- These twins are produced when a fertilized egg splits, creating two or more embryos that carry almost identical DNA.
- Identical twins have nearly the same genetic makeup as each other, but they are genetically different from either parent.

### 11. Global Registry of Fossil Fuels:

- Recently, the World's first Global Registry of Fossil Fuels has been launched.
- Launched by: Carbon Tracker and the Global Energy Monitor
- Purpose: It is the first-of-its-kind database for tracking the world's fossil fuel production, reserves and emissions.
- It includes data from over 50,000 oil, gas and coal fields in 89 countries. That covers 75% of global reserves, production and emissions. This registry is available for public use.

#### What are the key analysis that can be made from this data?

- Firstly, the United States and Russia have enough fossil fuel still underground untapped to exhaust the world's remaining carbon budget. That's the remaining carbon the world

can afford to emit before a certain amount of warming occurs, in this case, 1.5 degrees Celsius.

- These reserves would generate 3.5 trillion tonnes of greenhouse gas emissions which is more than all of the emissions produced since the Industrial Revolution.
- Secondly, of the 50,000 fields included, the most potent source of emissions is the Ghawar oil field in Saudi Arabia, which churns out some 525 million tonnes of carbon emissions each year.

## **12. UNEP launches Green Fins Hub:**

- Recently, the United Nations Environmental Programme (UNEP), along with UK-based charity Reef-World Foundation has launched the Green Fins Hub.
- The Green Fins Hub is the first-ever global marine tourism industry platform.
- Purpose: The hub offers enhanced and global membership for participating dive and snorkel operators to conserve the marine environment.

### **Features:**

- The platform will help diving and snorkelling operators worldwide to make simple, cost-efficient changes to their daily practices by utilizing tried and tested solutions.
- It would also help them keep track of their annual improvements and communicate with their communities and customers.

### **Significance:**

- **Coral reefs** are home to at least 25% of marine life, are the mecca for marine-related tourism contributing up to 40% or more of the gross domestic product in some island nations.
- However, they are a most vulnerable ecosystem, especially to climate change with the difference between a global temperature rise of 1.5 or 20C being existential for reefs.
- Hence, increasing accessibility of best practice, knowledge and citizen science through the Green Fins Hub could be a game changer in ensuring a future for coral reefs and other fragile marine ecosystems.

### **Green Fins:**

- Green Fins is a proven conservation management approach – implemented internationally by The Reef-World Foundation and the UN Environment Programme – which leads to a measurable reduction in the negative environmental impacts associated with marine tourism.

### **Aim:**

- To protect coral reefs through environmentally friendly guidelines promoting sustainable diving and snorkelling.
- To provide the only internationally recognised environmental standards for marine tourism and its robust assessment system measures compliance.

## **13. International Day for the Preservation of the Ozone Layer:**

- Recently, India observed 28th World Ozone Day.
- Every year, 16th September is observed as the International Day for the Preservation of the Ozone layer (World Ozone Day) to commemorate the signing of the Montreal Protocol.
- The theme of World Ozone Day 2022 is “Montreal Protocol@35: global cooperation protecting life on earth”.

### **Highlights of World Ozone Day:**

- The 23rd edition of “The Montreal Protocol: India’s Success Story” was released.
- The other publications of the Ozone Cell of the Ministry of Environment, Forests and Climate Change released on the occasion include:
- Action Plan for implementing the recommendations of the **India Cooling Action Plan (ICAP)** for the thematic area space cooling in buildings.
- iStudy Report on Public Procurement Policies for Refrigeration and Air-Conditioning (RAC) Equipment using non-Ozone Depleting Substance (ODS) based refrigerants.
- Study Report on Cold Chain sector in India for promoting non-ODS and Low-Global Warming Potential (GWP) Refrigerants.
- Booklet on Good Servicing Practices for Energy Efficient operation of Room Air conditioners.
- The winning entries for a national level poster making and slogan writing competition for school children on ‘Save Our Ozone Layer’ were announced.
- **Call for adoption for Lifestyle for the Environment (LiFE)** that’s in line with the concept of sustainable lifestyle, encouraging us to adopt mindful and not mindless consumption and utilization of resources.
- Collaboration with eight Indian Institutes of Technology (Bombay, Roorkee, Hyderabad, Kanpur, Guwahati, Banaras, Madras and Delhi) to promote research and development of chemicals with low global warming potential, including blends. These can be used as alternatives to substances controlled under the Montreal Protocol.
- It will also help promote the Make in India initiative of the Government.

#### 14. MEE-ZOO Report 2022:

- The Ministry of Environment, Forest and Climate Change had recently released the Management Effectiveness Evaluation (MEE-ZOO) report 2022, which was created based on the survey of zoos across India.

#### What is Management Effectiveness Evaluation (MEE)?

- Management Effectiveness Evaluation (MEE) tool is increasingly being used by governments and international bodies to understand the strengths and weaknesses of the protected area management systems.
- It is defined as the assessment of how well National Parks and Wildlife Sanctuaries are being managed – primarily, whether they are protecting their values and achieving the goals and objectives agreed upon.
- Indicators: There are 30 “Headline Indicators” developed under six elements of MEE framework suitable in Indian context for evaluation. The ratings are assigned in four categories, as Poor – upto 40%; Fair – 41 to 59%; Good – 60 to 74%; Very Good – 75% and above.
- What was the need of this tool? At present, India has a network of 903 protected areas covering about five per cent of the total geographic area of the country. India also has 70% of the global tiger population, 70% of Asiatic lions and more than 60% of leopards global population. Hence, in order to assess the efficacy of protected areas, evaluation of management effectiveness is required.

#### Management Effectiveness Evaluation of Indian Zoos(MEE-ZOO):

- It is a framework which proposes guidelines, criteria and indicators for evaluation of zoos of the country through Management Effectiveness Evaluation Process (MEE-ZOO) in a manner which is discrete, holistic and independent.

- The assessment criteria and indicators look beyond the traditional concepts including issues of animal welfare, husbandry and sustainability of resources and finance.

**MEE of Marine Protected Areas:**

- A new framework for MEE of Marine Protected Areas has been also jointly prepared by Wildlife Institute of India(WII) and Ministry of Environment, Forest and Climate Change (MoEF&CC).

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**Key highlights:**

- India currently has 147 recognized zoos, which are categorized as large (17), medium (23), small (33), mini-zoos (60) and rescue centres (14).
- The recent **MEE-ZOO** evaluated the 39 zoos under the categories large and medium.
- The zoos were evaluated by a committee of 15 independent experts based on six elements - context, planning, input, process, output and outcomes.

**15. Global Environment Facility (GEF) Small Grants Program:**

- Recently, the Ministry of Environment of Environment, Forest and Climate Change (MoEFC), United Nations Development Programme (UNDP) and The Energy and Resources Institute (TERI) have jointly launched the Global Environment Facility Small Grants Programme.

**Key Points:**

- The GEF Small Grants Programme provides financial and technical assistance to projects focusing on conserving and restoring environment while also enhancing the lives of local communities.
- 2022 marks the 7th operational phase of this programme.
- The grants under this programme are given to non-governmental organizations and other institutions working in specific landscapes.
- The aim of this project is to build local communities' capacity to take collective action towards conserving the environment and achieving sustainable development.
- It focuses on three regions in India - highlands of the North East, Central semi-arid region and Indian coastal region.
- It would promote participatory landscape planning and management approach that would improve socio-ecological resilience through innovative livelihood opportunities.
- It seeks to strengthen community institutions to promote participatory governance and upscale successful community initiatives.
- It would also promote participatory monitoring and evaluation at the community level.

**Global Environment Facility (GEF):**

- The GEF was established in 1991 by the **World Bank** in consultation with UNDP and UNEP, to provide funding to protect the global environment. World Bank serves as the GEF trustee, administering the fund.
- GEF Funds are available to developing countries and countries with economies in transition to meet the objectives of the international environmental conventions and agreements.
- GEF serves as a "financial mechanism" to five Conventions:
  1. Convention on Biological Diversity (CBD)
  2. United Nations Framework Convention on Climate Change (UNFCCC)
  3. Stockholm Convention on Persistent Organic Pollutants (POPs)

4. UN Convention to Combat Desertification (UNCCD)
5. Minamata Convention on Mercury

### 16. Climate tipping point:

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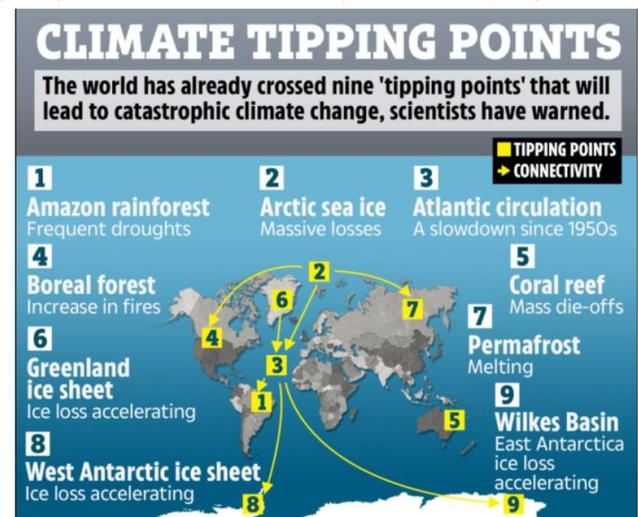
- Continued greenhouse gas emissions risk triggering climate tipping points. According to a major study, the climate crisis has driven the world to the brink of multiple “disastrous” tipping points.
- These are markers of a larger climate system which when triggered beyond a threshold, perpetuates warming on its own.

#### What are the key findings of the Study on climate tipping points?

- According to the Study, five dangerous tipping points may already have been passed due to the 1.1 degree Celsius of global heating caused by humanity to date. Four of these five become more likely as global warming exceeds 1.5°C.
- The collapse of the west Antarctic ice sheet was once thought to be a risk when warming reached 3°C-5°C above Earth’s pre-industrial average temperature. Now it’s thought to be possible at current warming levels.
- The researchers found that every fraction of a degree makes tipping more likely, but the researchers are not sure exactly when tipping becomes inevitable. This is especially true for the Greenland and west Antarctic ice sheets. The front edge of some retreating west Antarctic glaciers are only kilometres away from the unstoppable retreat.
- Both tropical coral reef death and abrupt permafrost thaw are possible at the current warming level. But thresholds vary between reefs and patches of permafrost. For instance, both are already happening in some places.
- Researchers also found that Amazon tipping might occur in several regions at varying warming levels rather than as one big event.

#### What are the suggestions to stop reaching climate tipping points?

- Currently, the world is heading toward 2 to 3 °C of global warming, at best, if all net-zero pledges and nationally determined contributions are implemented it could reach just below 2 °C.
- Ambitious emissions cuts in line with the Paris Agreement aims to halt warming at 1.5 °C. This would reduce the chances of triggering multiple climate tipping point.



### 17. Reintroduction of Cheetahs at Kuno National Park:

- Recently, Cheetahs have been reintroduced to Indian wildlife after 70 years of their domestic extinction.
- The PM released the Namibian cheetahs into the Kuno National Park's (MP) designated enclosure.

### **What are the factors favouring its reintroduction?**

- It can survive in Indian habitats. Kuno is the same place where cheetahs once existed. The area has grasslands and forest habitats appropriate for this species.
- African and Indian cheetahs have little genetic difference.

### **How will reintroduction of the species help?**

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- Bringing back cheetahs will restore the historic evolutionary balance. Dryland ecosystems of India will have a chance to return to their natural state as it is the flagship species of grasslands.
- It will also uplift the livelihood of the indigenous forest communities. It will increase tourism as India is the only country where all the six big cat species are found.
- In saving the cheetah, grassland-dependent species like caracal, which are on the brink, will also be saved.
- Project Cheetah will boost the ecosystem and biodiversity where it will live.

### **What needs to be done?**

- Other cats that are extinct like caracals also need attention.
- We need to focus upon other Indian animals like great Indian bustard and vultures.
- Cheetah conservation can be used for consolidation of grassland and shrubland that are languishing.

### **18. NGT fines West Bengal Government:**

- Recently, the National Green Tribunal has imposed a fine of Rs. 3,500 crores on the West Bengal government for alleged mismanagement of solid and liquid waste.

### **What is National Green Tribunal (NGT)?**

- It is a specialised body set up under the National Green Tribunal Act (2010) for effective and expeditious disposal of cases relating to environmental protection and conservation of forests and other natural resources.
- With the establishment of the NGT, India became the third country in the world to set up a specialised environmental tribunal, only after Australia and New Zealand, and the first developing country to do so.
- NGT is mandated to make disposal of applications or appeals finally within 6 months of filing of the same.
- The NGT has five places of sittings, New Delhi is the Principal place of sitting and Bhopal, Pune, Kolkata and Chennai are the other four.

### **What is the Structure of NGT?**

- The Tribunal comprises of the Chairperson, the Judicial Members and Expert Members. They shall hold office for term of three years or till the age of sixty-five years, whichever is earlier and are not eligible for reappointment.
- The Chairperson is appointed by the Central Government in consultation with Chief Justice of India (CJI).
- A Selection Committee shall be formed by central government to appoint the Judicial Members and Expert Members.
- There are to be least 10 and maximum 20 full time Judicial members and Expert Members in the tribunal.

### **What are its Powers & Jurisdiction?**

- The Tribunal has jurisdiction over all civil cases involving substantial question relating to environment (including enforcement of any legal right relating to environment).
- In October 2021, the Supreme Court declared the National Green Tribunal's (NGT) position as a "unique" forum endowed with suo motu (on its own motion) powers to take up environmental issues across the country.
- As per SC, the role of the NGT is not simply adjudicatory in nature; it has to perform equally vital roles that are preventative, ameliorative or remedial in nature.
- Being a statutory adjudicatory body like Courts, apart from original jurisdiction side on filing of an application, NGT also has appellate jurisdiction to hear appeal as a Court (Tribunal).
- The Tribunal is not bound by the procedure laid down under the Code of Civil Procedure 1908, but shall be guided by principles of 'natural justice'.
- While passing any order/ decision/ award, it shall apply the principles of sustainable development, the precautionary principle and the polluter pays principle.

#### **NGT by an order, can provide**

- ✓ relief and compensation to the victims of pollution and other environmental damage (including accident occurring while handling any hazardous substance),
- ✓ for restitution of property damaged, and
- ✓ for restitution of the environment for such area or areas, as the Tribunal may think fit.
- An order/ decision/ award of Tribunal is executable as a decree of a civil court.
- The NGT Act also provides a procedure for a penalty for non-compliance:
  - Imprisonment for a term which may extend to three years,
  - Fine which may extend to ten crore rupees, and
  - Both fine and imprisonment.
- An appeal against order/ decision/ award of the NGT lies to the Supreme Court, generally within ninety days from the date of communication.
- **The NGT deals with civil cases under the seven laws related to the environment, these include:**
  1. The Water (Prevention and Control of Pollution) Act, 1974,
  2. The Water (Prevention and Control of Pollution) Cess Act, 1977,
  3. The Forest (Conservation) Act, 1980,
  4. The Air (Prevention and Control of Pollution) Act, 1981,
  5. The Environment (Protection) Act, 1986,
  6. The Public Liability Insurance Act, 1991 and
  7. The Biological Diversity Act, 2002.
  8. Any violation pertaining to these laws or any decision taken by the Government under these laws can be challenged before the NGT.

#### **19. International Day of Clean Air for Blue Skies:**

- Recently, the Ministry of Environment, Forest and Climate Change (MoEF&C) organized 3rd International Day of Clean Air for blue skies as 'Swachh Vayu Diwas ("Swachh Vayu Neel Gagan")' today to raise awareness and facilitate actions to improve air quality under National Clean Air Programme (NCAP).

- 20 cities selected out of 131 for its National Clean Air Programme (NCAP) have attained the National Ambient Air Quality Standards (60 microgram per cubic meter) in 2021-22, compared to their 2017 levels.

**About:**

- During its 74th session, the United Nations General Assembly adopted a resolution to hold an International Day of Clean Air for Blue Skies on 19th December, 2019.
- The resolution also encouraged the United Nations Environment Programme (UNEP) to facilitate the day's observance in collaboration with other relevant stakeholders.
- In the lead-up to the passing of the resolution, the Climate and Clean Air Coalition collaborated with UNEP and the Republic of Korea to advocate for the day.

**Significance:**

- The United Nations commemorates the International Day of Clear Air for Blue Skies by hosting summits with member states.
- Attendees put forth their perspectives and discuss the data on the impacts of air pollution and air quality around the globe.

## Polity & Governance

**1. SC Order on Legal Abortion:**

- Recently, the Supreme Court has allowed all women in the country, regardless of marital status, can undergo an abortion up to 24 weeks into pregnancy to access safe and legal abortion care.
- SC has ruled over a 51-year-old abortion law (The Medical Termination of Pregnancy Act of 1971) which bars unmarried women from terminating pregnancies which are up to 24-weeks old.
- The Medical Termination of Pregnancy Act of 1971 and its Rules of 2003 prohibit unmarried women who are between 20 weeks to 24 weeks pregnant to abort with the help of registered medical practitioners.
- The latest amendment to the MTP Act was made in 2021.

**Right to Choose under Article 21:**

- Court held that the rights of reproductive autonomy, dignity and privacy under Article 21 of the Constitution gives an unmarried woman the right of choice as to whether or not to bear a child on a similar footing as that of a married woman.

**Right to Equality under Article 14:**

- Prohibiting single or unmarried pregnant women with pregnancies between 20 and 24 weeks from accessing abortion while allowing married women with the same term of pregnancy to access the care was violative of the right to equality before law and equal protection (Article 14).
- A single woman may have suffered the same "change in material circumstances" as a married pregnant woman. She may have been abandoned or without a job or been a victim of violence during her pregnancy.

**Not Constitutionally Sustainable:**

- Artificial distinction between married and unmarried women is not constitutionally sustainable.

- The benefits of law extend equally to single and married women.

#### **Extended the Ambit of Reproductive Rights:**

- The term Reproductive Right is not restricted to having or not having children.
- Reproductive rights' of women included a "constellation of rights, entitlements and freedoms for women".
- Reproductive rights include the right to access education and information about contraception and sexual health, right to choose safe and legal abortion and right to reproductive health care.
- Views on Marital Rape:
- For the sole purpose of the MTP Act, the meaning of rape must include marital rape to marshal a woman's right to reproductive and decisional autonomy.

#### **What are the Concerns?**

##### **Cases of Unsafe Abortions:**

- ✓ Unsafe abortions are the third leading cause of maternal mortality in India, and close to 8 women die from causes related to unsafe abortions each day, according to the United Nations Population Fund (UNFPA)'s State of the World Population Report 2022.
- ✓ The women outside marriages and in poor families are left with no choice but to use unsafe or illegal ways to abort unwanted pregnancies.

##### **Shortage of Medical Expert in Rural India:**

- ✓ According to a 2018 study in the Lancet, 15.6 million abortions were accessed every year in India as of 2015.
- ✓ The MTP Act requires abortion to be performed only by doctors with specialisation in gynaecology or obstetrics.
- ✓ However, the Ministry of Health and Family Welfare's 2019-20 report on Rural Health Statistics indicates that there is a 70% shortage of obstetrician-gynaecologists in rural India.

##### **Illicit Abortions leading to Maternal Mortality:**

- ✓ As the law does not permit abortion at will, it pushes women to access illicit abortions under unsafe conditions, thus result in maternal mortality.

##### **Way Forward:**

- India's legal framework on abortion is largely considered progressive, especially in comparison to many countries including the United States where abortion restrictions are severely restricted – both historically, and at present.
- Further, there is a need for a serious rethink in public policy making, also accommodating all the stakeholders to focus on women and their reproductive rights, rather than drawing red lines those medical practitioners cannot cross while performing abortions.

## **2. Livestreaming of Constitutional Bench Proceedings:**

- Recently, the **Supreme Court (SC)** decided to live stream its proceedings in crucial Constitution Bench cases that will be heard from 27th September, 2022.

##### **Background:**

- The Supreme Court in *Swapnil Tripathi vs Supreme Court of India* (2018) had ruled in favour of opening up the apex court through live-streaming.
- It held that the live streaming proceedings are part of the right to access justice under Article 21 (Protection of Life and Personal Liberty) of the Constitution

- Gujarat High Court was the first high court to livestream court proceedings followed by Karnataka high court.
- Currently, the Jharkhand, Karnataka, Madhya Pradesh, Orissa, and Patna High Courts live stream their proceedings.
- Allahabad High Court is considering power doing the same.

Page|60 **Recommendations by the Attorney-General of India:**

- Live-streaming must be introduced as a pilot project in Chief-Justice of India's (CJI's) court, and only in Constitution Bench cases.
- The success of this project will determine whether or not live streaming should be introduced in all courts i.e., the Supreme Court and in courts pan-India.
- De-congestion of courts and improved physical access to courts for litigants who have to otherwise travel long distances to come to the SC were cited by the Attorney general (AG) in support of his recommendation.
- A set of guidelines suggested by the A-G was approved by the SC. However, the A-G suggested that the court must retain the to withhold broadcasting, and also not permit it in cases involving:
  - ✓ Matrimonial matters
  - ✓ Matters involving interests of juveniles or the protection and safety of the private life of the young offenders
  - ✓ Matters of National security
  - ✓ To ensure that victims, witnesses or defendants can depose truthfully and without any fear.
  - ✓ Special protection must be given to vulnerable or intimidated witnesses.
  - ✓ It may provide for face distortion of the witness if she/he consents to the broadcast anonymously.
  - ✓ To protect confidential or sensitive information, including all matters relating to sexual assault and rape
  - ✓ Matters where publicity would be antithetical to the administration of justice, and
  - ✓ Cases which may provoke sentiments and arouse passion and provoke enmity among communities.

**What is the Scenario in Other Countries?**

- **United States:** Since 1955, audio recording and transcripts of oral arguments has been allowed.
- **Australia:** Live or delayed broadcasting is allowed but the practices and norms differ across courts.
- **Brazil:** Since 2002, live video and audio broadcast of court proceedings, including the deliberations and voting process undertaken by the judges in court, is allowed.
- **Canada:** Proceedings are broadcast live on Cable Parliamentary Affairs Channel, accompanied by explanations of each case and the overall processes and powers of the court.
- **South Africa:** Since 2017, the Supreme Court of South Africa has allowed the media to broadcast court proceedings in criminal matters, as an extension of the right to freedom of expression.
- **United Kingdom:** After 2005, proceedings are broadcast live with a one-minute delay on the court's website, but coverage can be withdrawn in sensitive appeals.

**Concerns:**

- Video clips of proceedings from Indian courts that are already there on YouTube and other social media platforms with sensational titles and little context are leading to the spread of misinformation among the public, as prevalent from the recent past.
- Also, the commercial agreements with broadcasters are also concerning.
- The unauthorised reproduction of live streaming videos is another cause for concern as its regulation will be very difficult at the government's end.

#### Way Forward:

- Broadcasting court proceedings is a step in the direction of transparency and greater access to the justice system. Citizens have the right to information and technology exists to make matters of constitutional and national importance available for public viewership.
- If a live stream of the top court's proceedings is not possible, alternatively video recording of the proceedings should be allowed.
- The agreements with broadcasters should be on a non-commercial basis. No one should profit from the arrangement.
- A set of guidelines must be framed to ensure that the video titles and description are not misleading and convey accurate information, only.
- Strict punishment/penalty must be attached with the unauthorised reproduction of live-streaming of videos.

### 3. ECI seeks restrictions on cash donations to political parties:

- The Chief Election Commissioner has written to the Union Law Ministry to limit anonymous political donations. He has provided several recommendations reduce election funding via black money.

#### Key recommendations:

- ✓ **Disclose donations above Rs.2,000:** Under the current rules, political parties are required to disclose all donations above Rs.20,000 through their contribution report. The EC recommends disclosure of all donations above Rs.2,000.
- ✓ **Capping Cash Donations:** The EC also found that while donations reported by some political parties were nil, their audit accounts statement revealed that they received large amount of money via cash, below the threshold of Rs.20,000. It recommended capping cash donations at 20 per cent or at maximum of Rs.20 crore of the total funds received by a party, whichever is less.
- ✓ **Mandatory digital/cheque transactions:** EC called for mandating digital transaction or account payee cheque transfers for all expenses above Rs.2,000 to a single entity/ person.
- ✓ **Separate account for election finances:** While maintaining separate bank account for poll expenditure is already part of the instruction, the EC wants this to become part of Rule 89 of the Conduct of Election Rules, 1961. This would require the candidate to maintain a separate account for recipient and payments related to elections. This has to be disclosed to the EC as an account of election expenditure.
- ✓ **Transparency in foreign donations:** The EC also sought electoral reforms so that no foreign donations can penetrate into the political funding as speculated under the Representation of the People (RP) Act, 1951 and the Foreign Contribution Regulation Act (FCRA), 2010. Currently, there lacks a mechanism segregating foreign donations at the initial stages and the current format of the contribution report is not capable of gaining this information.

#### 4. Criminal Procedure (Identification) Act, 2022:

- Recently, the Criminal Procedure (Identification) Act, 2022 has come into force after being passed by the Parliament in April 2022.
- It replaces the Identification of Prisoners Act, 1920, a colonial era law, and authorises police officers to take measurements of people convicted, arrested or facing trial in criminal cases.
- What is the Criminal Procedure (Identification) Act, 2022?
- It provides Legal sanction to the police to take physical and biological samples of convicts as well as those accused of crimes.
- The police as per section 53 or section 53A of the Code of Criminal Procedure (CrPC), 1973, can collect Data.
- Data that can be collected: Finger-impressions, Palm-Print impressions, Footprint impressions, Photographs, Iris and Retina scan, Physical, Biological samples and their analysis, Behavioural Attributes including signatures, Handwriting or any other examination
- CrPC is the primary legislation regarding the procedural aspects of criminal law.
- Any person convicted, arrested or detained under any preventive detention law will be required to provide "measurements" to a police officer or a prison official.
- National Crime Records Bureau (NCRB) will store, preserve, share with any law enforcement agency and destroy the record of measurements at national level. The records can be stored up to a period of 75 years.
- It aims to ensure the unique identification of those involved with crime and to help investigating agencies solve cases.

#### What was the need to replace the Identification of Prisoners Act, 1920?

- In State of UP vs Ram Babu Misra case: The Supreme Court highlighted the need for amending the Identification of Prisoners Act.
- 87th Report of the Law Commission of India in 1980: The Commission undertook a review of the Identification of Prisoners Act based on the Supreme Court ruling and the numerous amendments made to the Act by several States.
- The commission recommended several amendments.
- These include a) Expanding the scope such as "palm impressions", "specimen of signature or writing" and "specimen of voice", b) Allowing measurements to be taken for proceedings other than those under the Code of Criminal Procedure (CrPC).

## A comparison between the two Identification Acts

The previous Identification of Prisoners Act, 1920 and the freshly notified Criminal Procedure (Identification) Act, 2022 have similarities as well as major differences. A quick look at how "measurements" of convicts and arrested persons will be collected from now on

Relevant provisions	Identification of Prisoners Act	Criminal Procedure Identification Act
<b>Persons whose measurements can be taken</b>	should be convicted of an offence punishable with rigorous imprisonment of one year or upwards	if convicted of an offence punishable under any law
	should be arrested for an offence punishable with rigorous imprisonment of one year or upwards	if arrested for an offence punishable under any law or if detained under preventive detention laws
	if directed by the Magistrate for measurements to be taken for the purposes of investigation of proceedings under the CrPC, provided the person has been arrested in connection with such investigation previously	if directed by the Magistrate for measurements to be taken for the purposes of investigation of proceedings under the CrPC or any other law in force; there is no requirement for the person to have been arrested in connection with such proceedings previously
	ordered to give security for his good behaviour under CrPC	ordered to give security for his good behaviour under CrPC
<b>Measurements that can be taken</b>	finger impressions, foot impressions, measurements and photographs	finger-impressions, palm-print impressions, foot-print impressions, photographs; iris and retina scan; physical, biological samples and their analysis; behavioural attributes including signatures, handwriting or any other examination referred to in section 53 or section 53A of the CrPC, 1973
<b>Destruction of measurements</b>	in case of acquittal, discharge or release, if not previously convicted of any offence punishable with rigorous imprisonment of one year or upwards	in case of acquittal, discharge or release, if not previously convicted of any offence punishable with rigorous imprisonment for any term. For convicts, records are to be destroyed from 75 years of collection

### 5. Panel to study status of Scheduled Castes converts:

- The Government of India is all set to constitute a National Commission to study the social, economic and educational status of members of Scheduled Castes or Dalits who converted to religions other than Hinduism, Buddhism and Sikhism.

#### Background:

- The Constitution (Scheduled Castes) Order, 1950 under Article 341 stipulates that no person professing a religion different from Hinduism, Sikhism or Buddhism can be deemed to be a member of a Scheduled Caste(SC).
- The original order under which only Hindus were classified as SCs was amended in 1956 to include Sikhs, and in 1990 to cover Buddhists.
- A petition has been filed in the Supreme Court seeking SC reservation benefits for Dalits who converted to Christianity or Islam.

#### What has been the government's response to this?

- The Government of India is all set to constitute a National Commission to study the social, economic and educational status of members of Scheduled Castes or Dalits who converted to religions other than Hinduism, Buddhism and Sikhism.
- The commission will also study the impact of adding more members to the current SC list.
- Has this matter been taken up before by the government?
- The matter of providing the SC quota benefits to Dalits who converted to Christianity or Islam has come up before earlier governments as well.
- The Ranganath Mishra Commission's report submitted in 2007 recommended that SC status be completely delinked from religion and be made religion-neutral like STs.
- However, the then government rejected the proposal on grounds that it was not substantiated by field studies.

#### 6. **International Day of Democracy:**

- International Day of Democracy is observed every year on September 15 across the world to strengthen democracies and highlight their importance.
- The International Day of Democracy was created after a resolution was passed by the UN General Assembly in the year 2007. This UNGA resolution sought to strengthen and consolidate democracy. The International Day of Democracy was celebrated for the first time in 2008.

#### **Key Points:**

- The International Day of Democracy 2022 focused on highlighting the key role played by media freedom in safeguarding the democracy, maintaining peace and achieving 2030 Sustainable Development Goals.
- It was observed with the theme "Protecting Press Freedom for Democracy".
- This is significant as, according to the UNESCO, 85 per cent of the global population are experiencing a deterioration in press freedom in their country over the past five years.

#### **Why this day is observed?**

- The International Day of Democracy is celebrated to uphold and honor the democratic values at the international level. Democracy is a form of government in which the government is directly elected by the people. This day gives the opportunity to review the state of democracy across the world.
- The International Day of Democracy aims to achieve ideal democracy, which can be realized only when everyone from everywhere are benefited from democracy. This can be achieved only through full participation of people and support from international community, national governing bodies, civil societies and individuals.

#### 7. **Inclusion of tribes from 5 states in ST category:**

- Recently, government has approved the inclusion of certain communities in the lists of Scheduled Tribes in Chhattisgarh, Tamil Nadu, Karnataka, Himachal Pradesh and Uttar Pradesh, fulfilling long-pending demands from these states.

#### **About the Newly Added Tribe:**

#### **Hatti Tribe (Himachal Pradesh):**

- The **Hattis** are a close-knit community who got their name from their tradition of selling homegrown vegetables, crops, meat and wool etc. at small markets called 'haat' in towns.
- The community has been making the demand since 1967, when tribal status was accorded to people living in the Jaunsar Bawar area of Uttarakhand, which shares a border with Sirmour district.
- Their demand for tribal status gained strength because of resolutions passed at various maha Khumblis over the years.

#### **Narikoravan and Kurivikkaran (Tamil Nadu):**

- Nomadic tribes like the Narikuravas and Kuruvikaras (jackal catchers and bird eaters) pride themselves on their traditional occupations of hunting and gathering.

#### **Binjhia (Chhattisgarh):**

- The Binjhia in Chhattisgarh were listed as ST in Jharkhand and Odisha but not in Chhattisgarh.
- The Binjhia are non-vegetarians and agriculture is the mainstay of their economy. They do not eat beef and pork but consume alcoholic drinks including the handia (rice beer).

#### **Gond Community (Uttar Pradesh):**

- The Cabinet approved a proposal to bring the Gond community residing in 13 districts of Uttar Pradesh, under the ST list from the Scheduled Caste list.
- This includes the five subcategories of the Gond community (Dhuria, Nayak, Ojha, Pathari, and Rajgond).

#### **Betta-Kuruba (Karnataka):**

- The ST status granted to the Betta-Kuruba community as a synonym of Kadu Kuruba of Karnataka.
- Betta-Kuruba community has been demanding to include in the ST category for the last 30 years.

#### **What is the Process of Inclusion in the ST List?**

- The process to include tribes in the ST list begins with the recommendation from the respective State governments, which are then sent to the Tribal Affairs Ministry, which reviews and sends them to the Registrar General of India for approval.
- This is followed by the National Commission for Scheduled Tribes' approval before the list is sent to the Cabinet for a final decision.

#### **What will be the Benefits in the Inclusion in the ST List?**

- The move will enable members of the communities newly listed in the revised list of Scheduled Tribes to derive benefits meant for STs under the existing schemes of the government.
- Some of the major benefits include post-matric scholarship, overseas scholarship and the national fellowship, besides education, concessional loans from the National Scheduled Tribes Finance and Development Corporation, and hostels for students.
- In addition, they will also be entitled to benefits of reservation in services and admission to educational institutions as per the government policy.

#### **8. Attorney General for India:**

- Senior Advocate Mukul Rohatgi became the Attorney General for India for the second time.

#### **Key Points:**

- The Attorney General (AG) of India is a part of the Union Executive. AG is the highest law officer in the country.
- Article 76 of the Constitution provides for the office of AG of India.

#### **Appointment and Eligibility:**

- AG is appointed by the President on the advice of the government.
- S/he must be a person who is qualified to be appointed a judge of the Supreme Court, i.e. s/he must be a citizen of India and must have been a judge of some high court for five years or an advocate of some high court for ten years or an eminent jurist, in the opinion of the President.
- Term of the Office: Not fixed by the Constitution.
- Removal: Procedures and grounds for the removal of AG are not stated in the Constitution. S/he holds office during the pleasure of the President (may be removed by the President at any time).

#### **Duties and Functions:**

- To give advice to the Government of India (GoI) upon such legal matters, which are referred to her/him by the President.
- To perform such other duties of a legal character that are assigned to her/him by the President.
- To appear on behalf of the GoI in all cases in the Supreme Court or in any case in any High Court in which the GoI is concerned.
- To represent the GoI in any reference made by the President to the Supreme Court under Article 143 (Power of the President to consult the Supreme Court) of the Constitution.
- To discharge the functions conferred on her/him by the Constitution or any other law.

#### **Rights and Limitations:**

- S/he has the right to speak and to take part in the proceedings of both the Houses of Parliament or their joint sitting and any committee of the Parliament of which s/he may be named a member, but without a right to vote.
- S/he enjoys all the privileges and immunities that are available to a member of Parliament.
- S/he does not fall in the category of government servants. S/he is not debarred from private legal practice.
- However, s/he should not advise or hold a brief against the GoI.
- Solicitor General of India and Additional Solicitor General of India assist the AG in fulfillment of the official responsibilities.
- Corresponding Office in the States: Advocate General (Article 165).

#### **9. "Global Estimates of Modern Slavery" report:**

- Modern slavery has been exacerbated with Covid-19 pandemic, armed conflicts, climate change unemployment, education and poverty.
- The Global Estimates of Modern Slavery', a report published by the International Labour Organisation (ILO), International Organisation for Migration (IOM) and international human rights group Walk Free, said 50 million people were living in modern slavery in 2021.

#### **Key facts:**

- The 2021 Global Estimates for Modern Slavery Report indicates, at any given time, there are 50 million people in modern slavery, including 28 million in forced labour and 22 million in forced marriage.
- It means there are 6.4 victims of modern slavery for every 1,000 people in the world.
- 1 in 4 victims of modern slavery are children.
- Out of the 28 million people trapped in forced labour, 17.3 million people are exploited in the private sector such as domestic work, construction or agriculture; 6.3 million persons in forced commercial sexual exploitation, and 3.9 million persons in forced labour imposed by state authorities.
- Women and girls account for more than three quarters of those in forced commercial sexual exploitation, and for over one-third of those in forced labour in other sectors of the economy.

#### **What is Modern Slavery?**

- The term modern slavery is not defined under any law.
- It is a general term used to describe situations of exploitative nature in which the person cannot refuse or leave due to threats, violence, deception, and abuse of power.
- Modern slavery includes exploitative acts such as forced labour and debt bondage, forced marriage, and human trafficking.

#### **Form of Modern Slavery:**

##### **Forced labour:**

- “A simple comparison with the 2016 global estimates indicates an increase of 2.7 million in the number people in forced labour between 2016 and 2021, which translates to a rise in the prevalence of forced labour from 3.4 to 3.5 per thousand people in the world.
- The increase in the number of people in forced labour was driven entirely by forced labour in the private economy, both in forced commercial sexual exploitation and in forced labour in other sectors.
- Disruptions to income because of the pandemic led to greater indebtedness among workers.
- Amongst regions, Asia-Pacific is host to more than half of the global total (15.1 million), followed by Europe and Central Asia (4.1 million), Africa (3.8 million), the Americas (3.6 million), and the Arab States (0.9 million).

##### **Forced marriage:**

- The number of people living in a forced marriages increased by 6.6 million between 2016 and 2021.
- The Covid-19 pandemic has also exacerbated the underlying drivers of all forms of modern slavery, including forced marriage, which often is linked to economic hardship.
- Nearly two-thirds of all forced marriages, an estimated 14.2 million people, are in Asia and the Pacific.
- This is followed by 14.5 per cent in Africa (3.2 million) and 10.4 per cent in Europe and Central Asia (2.3 million).

##### **Law related to slavery in India:**

- The Indian Slavery Act, 1843, also known as Act V of 1843 outlawed many economical transactions associated with slavery, is still applicable. The Act, banned slavery in India, made sale, and purchase of any person as a slave a punishable offence under the Indian Penal Code.

- **Article 23** of Indian Constitution also mandates Prohibition of Trafficking & Forced Labour. It says, "Traffic in human beings and begar and other similar forms of forced labour are prohibited and any contravention of this provision shall be an offence punishable in accordance with law."
- Bonded labour is defined in the Bonded Labour System (Abolition) Act of 1976 as a system of forced or partly forced labour in which a debtor gets an advance of cash or kind in return for his labour or service to the creditor.

#### Way forward:

- Reliable information and statistics on forced labour, forced marriage, and human trafficking are critical to promoting awareness and understanding of the problem, and to informing policy responses.
- It is hoped that the findings presented in the report will encourage further research and data collection efforts focused on the national and local dimensions of all forms of modern slavery.

#### 10. 30th Southern Zonal Council Meeting:

- Recently, Union Home Minister Amit Shah inaugurated the 30th Southern Zonal Council meeting of South Indian States and Union Territories in Thiruvananthapuram.

#### What are Zonal Councils?

- Zonal Councils are the statutory (and not the constitutional) bodies.
- They are established by an Act of the Parliament, that is, States Reorganisation Act of 1956.
- The act divided the country into five zones- Northern, Central, Eastern, Western and Southern and provided a zonal council for each zone.
- While forming these zones, several factors have been taken into account which include:
  - The natural divisions of the country.
  - The river systems and means of communication.
  - The cultural and linguistic affinity.
  - The requirements of economic development, security and law and order.
- In addition to the above mentioned Zonal Councils, a North-Eastern Council was created by a separate Act of Parliament, the North-Eastern Council Act of 1971.
- Its members include Assam, Manipur, Mizoram, Arunachal Pradesh, Nagaland, Meghalaya, Tripura and Sikkim.
- These are advisory bodies that make recommendations with regard to any matter of common interest in the field of economic and social planning between the Centre and States border disputes, linguistic minorities, inter-State transport or matters connected with the reorganisation of States.

#### Composition:

- The Northern Zonal Council: It comprises the States of Haryana, Himachal Pradesh, Jammu & Kashmir, Punjab, Rajasthan, National Capital Territory of Delhi and Union Territory of Chandigarh,
- The Central Zonal Council: It comprises the States of Chhattisgarh, Uttarakhand, Uttar Pradesh and Madhya Pradesh,
- The Eastern Zonal Council: It comprises the States of Bihar, Jharkhand, Orissa, Sikkim and West Bengal,

- The Western Zonal Council: It comprises the States of Goa, Gujarat, Maharashtra and the Union Territories of Daman & Diu and Dadra & Nagar Haveli,
- The Southern Zonal Council: It comprises the States of Andhra Pradesh, Karnataka, Kerala, Tamil Nadu and the Union Territory of Puducherry.

#### Organizational Structure:

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- **Chairman:** The Union Home Minister is the Chairman of each of these Councils.
- **Vice Chairman:** The Chief Ministers of the States included in each zone act as Vice-Chairman of the Zonal Council for that zone by rotation, each holding office for a period of one year at a time.
- **Members:** Chief Minister and two other Ministers as nominated by the Governor from each of the States and two members from Union Territories included in the zone.
- **Advisers:** One person nominated by the Planning Commission (now NITI Aayog) for each of the Zonal Councils, Chief Secretaries and another officer/Development Commissioner nominated by each of the States included in the Zone.

#### Objectives:

- Bringing out national integration.
- Arresting the growth of acute State consciousness, regionalism, linguism and particularistic tendencies.
- Enabling the Centre and the States to co-operate and exchange ideas and experiences.
- Establishing a climate of co-operation amongst the States for successful and speedy execution of development projects.

#### Functions of the Councils:

- Any matter of common interest in the field of economic and social planning,
- Any matter concerning border disputes, linguistic minorities or inter-State transport,
- Any matter connected with or arising out of, the reorganization of the States under the States Reorganisation Act.

## International Affairs

### 1. Food security concerns in Asia Pacific:

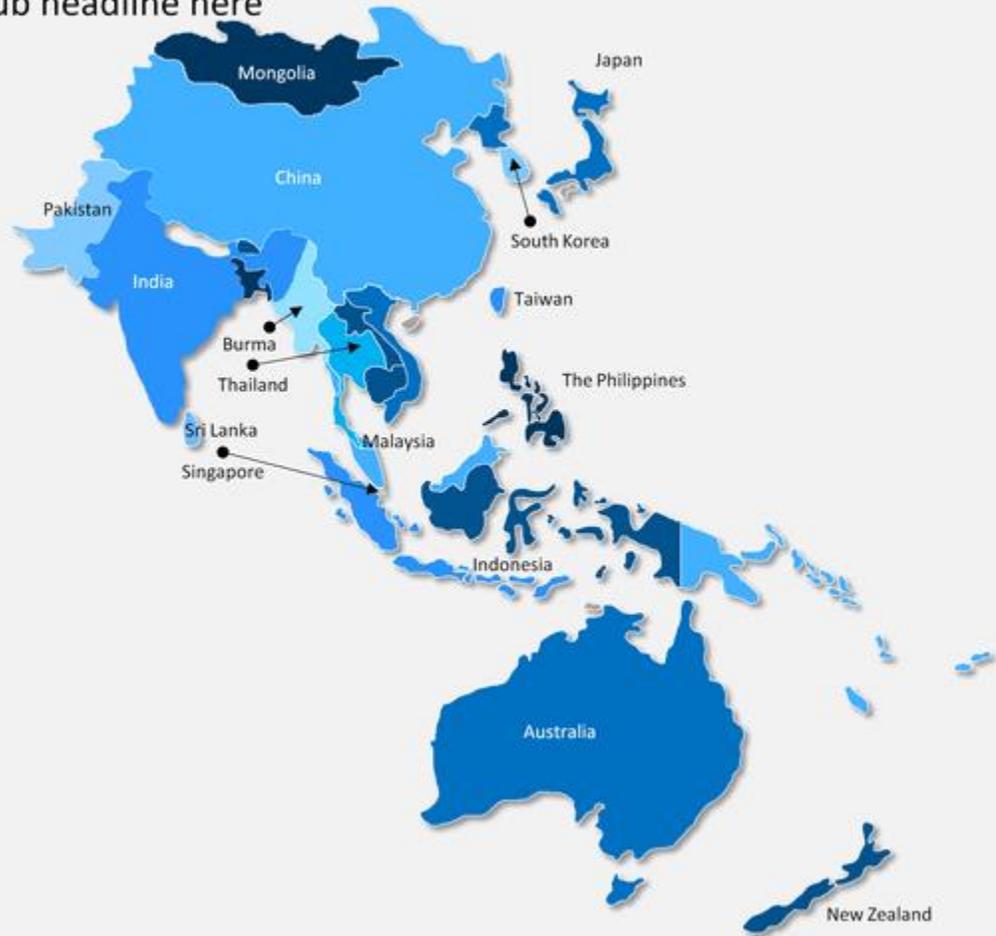
- The Asian Development Bank announced a \$14 billion assistance to fight food insecurity in Asia Pacific.
- The funding to address food insecurity in Asia Pacific was announced as part of the 55th ADB annual meeting.

#### Food security situation in Asia Pacific:

- The food insecurity in the region is being exacerbated by floods, droughts, global warming, diseases and other factors that are adversely impacting the food production. Currently, around 1.1 billion people do not have access to healthy diets because of scarcity and food inflation in the region.
- Some countries in Asia Pacific are vulnerable to food shocks because of their high dependence on imported staples and fertilizers. This makes nutritious food unaffordable in several of low-income countries in the region. The Russian invasion of Ukraine has disrupted the supply of these vital goods and worsened the situation.

## ASIA PACIFIC MAP

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### 2. International Day for the Total Elimination of Nuclear Weapons:

- The UN General Assembly commemorates **26 September** as the International Day for the Total Elimination of Nuclear Weapons. This Day provides an occasion for the world community to reaffirm its commitment to global nuclear disarmament as a priority.
- **The Day has been observed annually since 2014.**
- This was the latest in a series of efforts by the General Assembly to raise public awareness and to seek deeper engagement on nuclear disarmament matters. In 2009, the General Assembly had declared 29 August as the International Day against Nuclear Tests.

### 3. Asian Palm Oil Alliance (APOA):

- Edible oil trade associations from five palm oil importing countries in South Asia – India, Pakistan, Sri Lanka, Bangladesh and Nepal announced the setting up of Asian Palm Oil Alliance (APOA).

**Aim:**

- To safeguard the economic and business interests of the palm oil consuming countries and will work towards increasing the consumption of palm oil in member countries.
- To work towards ensuring that palm oil is recognised as a high-quality, economical, and healthy vegetable oil and to change the negative image of palm oil.
- **Members:** India, Pakistan, Sri Lanka, Bangladesh and Nepal
- **Meeting:** APOA held its first general body meeting on the sidelines of the Globoil Summit being held at Agra, India and the next meeting is expected to be held in Indonesia early next year 2023.

**Significance of this alliance:**

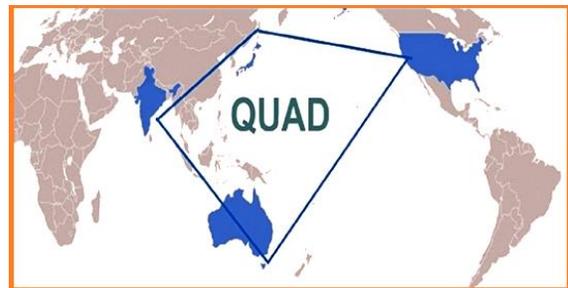
- Asia accounts for around 40% of the global palm oil consumption while Europe accounts for 12% of the palm oil trade. Indonesia and Malaysia are the biggest palm oil exporters in the world.
- India is the largest importer of palm oil in Asia, accounting for 15% of global imports, followed by China (9%), Pakistan (4%) and Bangladesh (2%).
- India's annual imports of edible oil are around 13-14 million tonnes (MT). Around 8 MT of palm oil is imported from Indonesia and Malaysia while other oils, such as soya and sunflower, come from Argentina, Brazil, Ukraine and Russia.

**4. QUAD inks HADR Partnership Guidelines:**

- Recently, the Foreign Ministers of the Quad (India, the U.S., Australia, and Japan) met on the fringes of the United Nations General Assembly (UNGA) to sign a Humanitarian Assistance and Disaster Relief (HADR) partnership into effect.
- Under the HADR, the member countries will coordinate their disaster response operations in the Indo-Pacific region with other National and International agencies, private non-governmental organizations.

**About QUAD:**

- It is the grouping of four democracies – India, Australia, the US, and Japan.
- All four nations find a common ground of being democratic nations and also support the common interest of unhindered maritime trade and security.
- It aims to ensure and support a “free, open and prosperous” Indo-Pacific region.
- The idea of Quad was first mooted by Japanese Prime Minister Shinzo Abe in 2007. However, the idea couldn't move ahead with Australia pulling out of it, apparently due to Chinese pressure.
- Finally in 2017, India, Australia, the US and Japan, came together and formed this “quadrilateral” coalition.

**Opportunities for India under Quad Arrangement:****Countering China:**

- The maritime space is a lot more important to China than engaging in opportunistic land grab attempts in the Himalayas.
- A huge chunk of Chinese trade happens via the Indian oceanic routes that pass through maritime chokepoints.

- In the event of any Chinese aggression on borders, India by cooperating with Quad countries can potentially disrupt Chinese trade.
- Hence, unlike in the continental sphere where India seems facing a 'nutcracker like situation' due to China-Pakistan collusion, the maritime sphere is wide open to India to undertake coalition building, rule setting, and other forms of strategic exploration.

Page|72 **Emerging as a Net Security Provider:**

- There is a growing great power interest in the maritime sphere, especially with the arrival of the concept of 'Indo-Pacific'. For instance, many European countries have recently released their Indo-Pacific strategies.
- With India, located right at the centre of the Indo-Pacific geopolitical imagination can realise the vision of a 'broader Asia' that can extend its influence away from geographical boundaries.
- Moreover, India can build around collective action in humanitarian assistance and disaster relief, monitoring shipping for search and rescue or anti-piracy operations, infrastructure assistance to climatically vulnerable states, connectivity initiatives and similar activities.
- Further, India with Quad countries can check imperialist policies of China in Indian ocean region and ensure Security and growth for all in the region.

**Issues Related to Quad:**

- **Undefined Vision:** Although there is potential for cooperation, the Quad remains a mechanism without a defined strategic mission.
- **Maritime Dominated:** The entire focus on the Indo-Pacific makes the Quad a maritime, rather than a land-based grouping, raising questions whether the cooperation extends to the Asia-Pacific and Eurasian regions.
- **India's Aversion of Alliance System:** The fact that India is the only member that is averse to a treaty alliance system, has slowed down the progress of building a stronger Quadrilateral engagement.

**Way Forward:**

- The Quad nations need to better explain the Indo-Pacific Vision in an overarching framework with the objective of advancing everyone's economic and security interests.
- India has many other partners in the Indo-Pacific; therefore, India should pitch for countries like Indonesia, Singapore to be invited to join in the future.
- India should develop a comprehensive vision on the Indo-Pacific which would ideate on the current and future maritime challenges, consolidate its military and non-military tools, engage its strategic partners.

**5. Sri Lanka's inflation spikes to 70.2%:**

- Recently, Sri Lanka recorded 70.2 per cent inflation rate for August 2022.
- The National Consumer Price Index (NCPI) has increased 2.5 per cent in August, as the food prices increased 1.7 per cent and prices of non-food products increased 3.2 per cent.
- The non-food inflation increased to 57.1 per cent in August from 52.4 per cent in July. This mainly because of the increase in electricity tariffs.
- However, the monthly prices have decreased to 3.2 per cent from the July's 6.7 per cent.
- Core prices, without including volatile items like food, energy and transport, have surged from 57.3 per cent in July to 60.5 per cent in August.

- Prices of food items have spiked by 84.6 per cent, an increase from July's 82.5 percent.
- However, changes in the prices measured in monthly basis has declined from 4.6 per cent in July to 1.7 per cent.
- It is forecasted that, if the global commodities prices remain stable, inflation in Sri Lanka will reach the highest in September before easing thereafter.

Page|73 **Major Factors of Economic Crisis:**

**Economic Factors:**

- The Easter bomb blasts of April 2019 in churches in Colombo resulting in 253 casualties, consequently, dropped the number of tourists sharply leading to a decline in foreign exchange reserves.
- The newly led government by Gotabaya Rajapaksa in 2019 promised lower tax rates and wide-ranging SoPs for farmers during their campaign.
- The quick implementation of these ill-advised promises further exacerbated the problem.
- The Covid-19 pandemic in 2020 made the bad situation worse -
- Exports of tea, rubber, spices and garments suffered.
- Tourism arrivals and revenues fell further
- Due to a rise in government expenditures, the fiscal deficit exceeded 10% in 2020-21, and the debt to GDP ratio rose from 94% in 2019 to 119% in 2021.
- The Crisis in Sri Lanka is triggered due to a shortage of foreign exchange (forex) reserves, which have dropped by 70% over the last two years to just USD 2 billion by the end of February 2022.
- Meanwhile, the country has foreign debt obligations of about USD 7 billion for 2022.

**Sudden Move to Organic Farming:**

- In 2021, all fertiliser imports were completely banned and it was declared that Sri Lanka would become a 100% organic farming nation overnight.
- This overnight shift to organic fertilisers heavily impacted food production.
- Consequently, the Sri Lankan President declared an economic emergency to contain rising food prices, a depreciating currency, and rapidly depleting forex reserves.

**China's Debt Trap:**

- Sri Lanka has borrowed heavily from Beijing since 2005 for infrastructure projects, many of which became White Elephants (no longer needed/ useful).
- Sri Lanka also leased its Hambantota port to a Chinese company in 2017 after it became unable to service the USD 1.4 billion debt from Beijing used to build it.
- Sri Lanka's total debt to China stands at USD 8 billion, almost one sixth of its total external debt.

**Current Political Vacuum:**

- Prime Minister Wickremesinghe and President Gotabaya Rajapaksa signalled the willingness to resign making way for an all-party government to take over.

**Why should India worry about Sri Lanka Crisis?**

**Challenges:**

**Economic:**

- ✓ Sri Lanka's share in India's total exports has declined from 2.16% in FY15 to just 1.3 per cent in FY22.

- ✓ Automotive firms like Tata Motors and TVS Motors have stopped exports of vehicle kits to Sri Lanka and halted production at their Sri Lankan assembly units due to its unstable forex reserves and fuel shortages.

#### **Refugee:**

- ✓ Whenever a political or social crisis has occurred in Sri Lanka, India has witnessed a large influx of ethnic Tamil community refugees from the Sinhala Land to India through the Palk strait and Gulf of Munnar.
- ✓ However, India may find it difficult to handle such an influx and needs a robust policy in place to handle the crisis.
- ✓ The state of Tamil Nadu has already started feeling the impact of the crisis with the reported arrival of 16 persons from Sri Lanka through illegal means.

#### **What Opportunities should India look for?**

##### **Opportunities:**

##### **Tea Market:**

- ✓ Amid the sudden halt of tea supply by Sri Lanka to the global tea market, India is keen to plug the supply gaps.
- ✓ India could strengthen its footprint in Iran and as well as new markets such as Turkey, Iraq.
- ✓ Big Sri Lankan tea importers from Iran, Turkey, Iraq and Russia are reportedly visiting India for tea plantations in Assam and Kolkata.
- ✓ As a result, at recent Kolkata auctions, the average price for orthodox leaf saw an increase of up to 41% compared to corresponding sales last year.

##### **Apparel (Clothing) Market:**

- ✓ Many apparel orders from the United Kingdom, European Union, and Latin American countries are now being diverted to India.
- ✓ Several orders have been given to companies in Tirupur, the hub of the textile industry in Tamil Nadu.

##### **Why Should India assist in Helping Sri Lanka?**

- ✓ Sri Lanka has been a strategically important partner for India. India can make use of this opportunity to balance its diplomatic ties with Sri Lanka, which have been distant owing to Sri Lanka's proximity with China.
- ✓ As the disagreement between Sri Lanka and China intensified on the fertiliser issue, India's fertiliser delivery to Sri Lanka on the latter's request is seen as a positive development in the bilateral relations.
- ✓ Extending diplomatic ties with Sri Lanka will ease India's effort to keep the Sri Lankan archipelago out of China's 'string of pearls' game in the Indo-Pacific.
- ✓ To the extent India can extend help to alleviate the hardships of Sri Lankans, it should be done with due care keeping in mind that the optics of its aid matters too.

##### **Way Forward:**

##### **Implementing Democracy in True Spirit:**

- There is a need for strong political consensus in Sri Lanka for better crisis-management. Militarisation of Administration can be reduced.
- Considerations are needed to help the poor and vulnerable get back on their feet and prevent long-term scarring.
- The steps include an increase in agricultural productivity, increased job opportunities in non-farming sectors, better implementation of reforms and reviving the tourism sector.

##### **Support from India:**

- India, which has followed the "Neighbourhood First policy" to cement bonds with its neighbours, can walk that extra mile to help Sri Lanka out of the current crisis and help Sri Lanka towards realising its potential, to reap the rewards of a stable, friendly neighbourhood.

#### **Bailout from International Monetary Fund:**

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- Sri Lanka has approached the IMF for the bailout. The IMF can support Sri Lanka's efforts to overcome the current economic crisis.

#### **Prospects of Circular Economy:**

- With reference to economic instability in Sri Lanka, the dependence on imports can be minimised by the circular economy, it will offer a sustainable alternative to aid a recovery.

#### **6. September 21: International Day of Peace:**

- Each year the International Day of Peace is observed around the world on 21st September.
- The International Day of Peace was established in 1981 by the United Nations General Assembly.
- In 2001, the General Assembly unanimously voted to designate the Day as a period of non-violence and cease-fire.
- Theme for 2022: End racism. Build peace.

#### **Key Points:**

- The United Nations (UN) General Assembly has declared this as a day devoted to strengthening the ideals of peace, through observing 24 hours of non-violence and cease-fire.

#### **International Day of Non-Violence:**

- The International Day of Non-Violence is observed on 2nd October, the birthday of Mahatma Gandhi.
- It was established by the UNGA in 2007 to "disseminate the message of non-violence, including through education and public awareness".

#### **What are the Various Challenges to Global Peace?**

- **Rise in Racism:** Black Americans earn 25% less than their white counterparts.
- Black Americans are twice as likely to be jobless than white Americans.
- Black women are three to four times more likely to suffer pregnancy-related deaths than white women at similar levels of income and education.
- **Global Unrests:** According to the World Population Review, 8 countries including Afghanistan, Yemen, Syria, Turkey, Somalia, Iraq, Mexico and Libya suffered at least 1,000 deaths each (mainly civilians) through militarised attacks and battles in 2019.
- **Russia-Ukraine War:** The war in Ukraine has led to a cost-of-living crisis. An estimated 1.6 billion people are exposed to at least one dimension of the crisis-food, energy and finance.
- **Refugee Crisis:** According to the UN Refugee Agency, 79.5 million were displaced at the end of 2019, due to armed conflicts, persecution and other reasons.
- **Role of Global Powers:** The USA, Russia and China are required to uphold peace and international harmony being the permanent members of the UN Security Council. However, on the contrary, they have been found to fuel instability in order to achieve geopolitical hegemony. **Examples:**

- ✓ The tragedy in **Yemen**, which the UN has declared as the world's worst humanitarian disaster, is the outcome of indiscriminate attacks by the U.S.-backed coalition of Saudi Arabia and the UAE, whose geopolitical goal is to counterbalance Iran.
- ✓ **Libya's** descent into chaos is the product of the active involvement of mercenaries and weapons pumped in by Russia and the USA-allied Gulf Arab monarchies to push back Turkey's influence.
- ✓ **China's** hegemonic expansionism against its neighbours and its 'new Cold War' with the U.S. have significantly raised risks of military clashes in Asia.
- ✓ New Power Tussle: The conflict and competition between the powerful countries, like the USA-China New Cold War is also going on, risking global peace.
- **Pandemic and Climate Crisis:** With the rise of extreme climate events around the globe and spread of pandemics such as Covid-19 have posed a new concern that may directly and indirectly affect global peace through lack of access to resources, health and education, displacement etc.

#### Way Forward:

- On the **International Day of Peace**, the unjust structure which privileges great powers and permits their ghastly machinations should be diagnosed and challenged.
- Intellectuals, social movements and responsible states should prioritise struggling for an equitable world order.

#### 7. **India-Bangladesh Friendship Pipeline:**

- Recently, the Assam-based Numaligarh Refinery Limited (NRL) is expected to complete the construction of India-Bangladesh Friendship Pipeline by the end of 2022.
- The India-Bangladesh Friendship Pipeline Project (IBFPP) aims to connect Siliguri in West Bengal, India with Parbatipur in Bangladesh's Dinajpur district.

#### **India Bangladesh Relations:**

- India was the first country to recognize Bangladesh as a separate and independent state and established diplomatic relations with the country immediately after its independence in December 1971 as a friendly South Asian neighbour.
- Bangladesh occupies a key place in India's Neighbourhood First policy. India's links with Bangladesh are civilisational, cultural, social and economic. There is much that unites the two countries- a shared history and common heritage, linguistic and cultural ties, passion for music, literature and the arts. Also, Rabindranath Tagore, created the National Anthems of both India and Bangladesh.
- However, there still remain major issues such as river water disputes (Teesta River water sharing), aiding illegal immigrants, and drug trades remain between India and Bangladesh, that must be addressed.

#### **Economic Ties:**

- The geographical proximity of India to Bangladesh has made it one of its biggest trading partners. Bangladesh is the 6th largest trade partner of India.
- India has provided duty free quota free access to Bangladesh on all tariff lines except tobacco and alcohol under South Asian Free Trade Area (SAFTA) since 2011.
- The bilateral trade between two countries has jumped to USD 18.2 billion in 2021-22 as compared to USD 10.8 billion in 2020-21.
- 6 Border Haats (4 in Meghalaya and 2 in Tripura), have been approved by the Indian and Bangladesh governments.

### **Sharing of River Waters:**

- India and Bangladesh share 54 common rivers. The Ganga Waters Treaty signed in 1996 for sharing of waters of river Ganga during lean season (January 1-May 31).
- Most recently, the Kushiara Pact was signed that will benefit people in Southern Assam and the Sylhet region in Bangladesh.

### **Page|77 Connectivity:**

- India and Bangladesh share 4096.7 Km. of border, which touches Assam, Tripura, Mizoram, Meghalaya and West Bengal. Transit and trade through inland waterways have been governed by a long standing and time-tested protocol between Bangladesh and India.
- Agartala-Akhaura Rail-Link will be the first rail route between Northeast India and Bangladesh.
- Power and Energy Sector Cooperation: Energy sector cooperation between India and Bangladesh has also seen considerable progress in the last few years.
- The India-Bangladesh Friendship Pipeline Project, signed in 2018, will connect Siliguri in West Bengal in India and Parbatipur in Dinajpur district of Bangladesh.
- India and Bangladesh have also signed the Framework of Understanding (FOU) on Cooperation in the Hydrocarbon Sector.

### **Tourism:**

- According to the Ministry of Tourism, Bangladesh accounted for the largest share of foreign tourist arrivals in India in 2020, including tens of thousands of people who come to the country for medical treatment.

### **8. European Parliament: Hungary no longer a full democracy:**

- Recently, the European Union Legislators voted in favour to now describe Hungary (ruled by populist Prime Minister Viktor Orban, who maintains close ties to Russian President Vladimir Putin) “a hybrid regime of electoral autocracy” in “serious breach” of EU democratic norms.
- The vote was largely symbolic and does not change the course of the Union’s decision-making, which requires unanimity of all 27 member states – including Hungary – to adopt major issues, such as sanctions on Russia.
- The European Union is a group of 27 countries that operate as a cohesive economic and political block.
- 19 of these countries use EURO as their official currency. 8 EU members (Bulgaria, Croatia, Czech Republic, Denmark, Hungary, Poland, Romania, Sweden) do not use the euro.

### **European Parliament:**

- It is the only parliamentary institution of the European Union (EU) that is directly elected by EU citizens aged 18 years or older. Together with the Council of the European Union (also known as the ‘Council’), it exercises the legislative function of the EU.
- European Parliament does not possess as much legislative power as its member countries’ parliaments do.

### **Council of the European Union:**

- It is part of the essentially bicameral EU legislature (the other legislative body being the European Parliament) and represents the executive governments (Minister) of the EU’s member states.

- In the Council, government ministers from each EU country meet to discuss, amend and adopt laws, and coordinate policies. The ministers have the authority to commit their governments to the actions agreed on in the meetings.

**9. Armenia and Azerbaijan clash at Lachin corridor:**

- **Armenia and Azerbaijan**, the two former soviet republics have been engaged in long-running conflicts over the disputed territory of **Nagorno-Karabakh region**.
- The disputed territory has been internationally recognized as part of Azerbaijan but is currently under the control of Armenian separatists.
- The recent clashes took place along the Lachin corridor that links Armenia to Nagorno-Karabakh.
- The **Lachin Corridor** is part of the Lachin District of Azerbaijan, but was under the control of the Russian peacekeeping force as per the 2020 Nagorno-Karabakh armistice agreement.
- The **Lachin** District returned under the control of Azerbaijan on August 26, 2022.
- The recent clash is the deadlines to break out between Armenia and Azerbaijan since the 2020 clashes.
- A peace deal brokered by Russia ended the 2020 war between the neighbors and resulted in Armenia withdrawing its troops from some of the occupied territories within Azerbaijan.
- In the latest skirmish, Azerbaijan launched combat drones and started shelling from artillery and mortars near the Sevan Lake.
- The Armenian side shelled Azerbaijan forces in the Kalbajar and Lachin districts in the separatist Nagorno-Karabakh regions.



**Nagorno-Karabakh region:**

- Nagorno-Karabakh is a landlocked region in the South Caucasus within the Karabkh mountain range. It is currently under the control of the unrecognized Republic of Artsakh, which declared itself to be independent with the help of Armenia in 1991.

**10. Exercise Kakadu-2022:**

- Exercise Kakadu is a joint-enabled, biennial exercise hosted by the Royal Australian Navy and supported by the Royal Australian Air Force.
- Kakadu is the Navy's premier maritime exercise, developing interoperability between nations in the maritime and air domains, and providing training opportunities for maritime security and surveillance.
- It started in 1993.

**Exercise Kakadu-22:**

- It's a two-week-long exercise, both in harbour and sea, involving ships and maritime aircraft from 14 navies.
- Participation: Around 19 vessels, 34 aircraft and more than 3000 personnel from 25 countries are expected.
- **Theme:** Partnership, Leadership, Friendship.
- Significance: As Navy's most significant international engagement activity, Exercise Kakadu is vital for building relationships between participating countries.
- The exercise provides an opportunity for regional partners to undertake multinational maritime activities ranging from constabulary operations to high-end maritime warfare in a combined environment.

#### 11. JIMEX-2022:

- The sixth edition of **Japan India Maritime Exercise 2022 (JIMEX 22)** hosted by Indian Navy commenced in the Bay of Bengal on 11 September 2022
- The Japan Maritime Self Defence Force (JMSDF) ships are being led by R Adm Hirata Toshiyuki, Commander Escort Flotilla Four, and Indian Naval ships by R Adm Sanjay Bhalla, Flag Officer Commanding Eastern Fleet.
- **JIMEX-22** involves two Phases; exercises at sea and a harbour phase at Visakhapatnam.
- This edition marks the 10th anniversary of JIMEX, which began in Japan in 2012.
- It also coincides with the 70th anniversary of establishing of diplomatic relations between India and Japan.
- JIMEX 22 seeks to consolidate the high degree of interoperability that exists between maritime forces of the two countries, through complex exercises in the surface, sub-surface and air domains.

#### 12. 2022 SCO Summit:

- The Shanghai Cooperation Organisation (SCO) summit 2022 was held recently in Samarkand, Uzbekistan.
- Samarkand declaration was signed by the member states.
- India takes over Presidency of the SCO for 2023.

#### Key Points:

- The Samarkand declaration advocated "commitment to peaceful settlement of differences and disputes between countries through dialogue and consultation".
- They stress that the principles of mutual respect for sovereignty, independence, territorial integrity of States, equality, mutual benefit, non- interference in internal affairs, and non-use or threat of use of force are the basis for sustainable development of international relations.
- The member countries are planning to develop common principles and approaches to form a unified list of terrorists, separatist and extremist organizations whose activities are prohibited on the territories of the SCO member states.
- Russia is also looking at more customers for its gas as Western countries look to cut their dependence on it.
- Russia suggested that the organisation should think about holding its own big athletic event.

#### Indian Perspective:

- **Connectivity:** India urged Shanghai Cooperation Organisation member states to give each other full right to transit, as it would enhance connectivity and help in establishing reliable and resilient supply chains in the region.
- **Food Security:** As the whole world is facing an unprecedented energy and food crisis, India emphasised the initiative to promote millet and address issues related to food security.
- In this context, India is trying to popularise millets, as SCO can play a big role in marking 2023 as the International Year of Millets.
- **Working Group on Traditional Medicine:** World Health Organisation (WHO) opened its Global Center for Traditional Medicines in Gujarat in April 2022.
- This was the first and only worldwide centre for conventional medicine established by the WHO.
- **Tourism:** Varanasi was declared as the SCO Tourism and Cultural Capital for 2022-2023 to promote the rich cultural and historical heritage of the people and the tourism potential of SCO member states.
- Further, it will promote tourism, cultural and humanitarian exchanges between India and the SCO member Countries.
- It also underlines India's ancient civilizational links with the Member States of SCO, especially the Central Asian Republics.
- Under the framework of this major cultural outreach program, a number of events will be hosted in Varanasi during 2022-23.

### 13. Vostok Military Exercise:

- Recently, India joined a multilateral strategic and command Exercise Vostok - 2022 in Russia along with China among other countries.
- It will involve troops from several ex-Soviet nations, China, India, Laos, Mongolia, Nicaragua and Syria.
- The Indian Army was represented by the contingent of troops from 7/8 Gorkha Rifles.
- It is aimed at interaction and coordination amongst other participating military contingents and observers.
- The Vostok 2022 exercise will be held at seven firing ranges in Russia's Far East and the Sea of Japan and involve more than 50,000 troops and over 5,000 weapons units, including 140 aircraft and 60 warships.
- The Indian Army contingent will look forward to sharing practical aspects and putting into practice the validated drills, procedures and practice amalgamation of new technology through discussions and tactical exercises.

### 14. Japan's war on floppy disks:

- Japan's Digital Ministry has announced that it will finally do away with floppy disks and other outdated technology in a bid to modernize its bureaucracy.

#### What are Floppy Disks?

- A floppy disk is a removable disk storage device used to save computer data and programmes. They were popularly used between the 1970s and 1990s.

- The first floppy disk developed by IBM was able to store about 800 KB of data which is about 0.0008 GB. To put that in perspective, today one can find hard drives with storage of up to 20 TB (20,000 GB).
- When floppy disks were first introduced in the 1970s, they were considered a massive technological breakthrough. But later with the introduction of CDs, pen drives and eventually the cloud, floppy disks grew redundant in most parts of the world.

#### **Are Floppy Disks still used in Japan?**

- The Japanese government has found that about 1,900 government procedures still mandated the use of specific storage devices – including the floppy disk, CD and mini disk.
- Hence, the digital minister said that the government would change its regulations, so people will be able to use online services instead.
- However, he has faced tremendous pushback from several government officials who have said that the floppy offers a degree of security and authenticity that an email just cannot.

#### **15. Chile rejects new Constitution:**

- Recently, a referendum in Chile rejected a proposal to replace the old charter with a new progressive constitution.
- The rejection of the referendum motion shocked President Gabriel Borich, who argued that the introduction of the new constitution would usher in a new progressive era.
- Lithium in Chile:
- Chile's extremely rich in lithium (second-largest lithium producer after Australia) - an essential component of batteries that support almost all modern smart devices.
- As the world races to replace fossil fuel consumption, the demand for lithium is causing a surge in its price.
- Lithium ion batteries do pack a lot of power and energy into a small package with a longer life-cycle.
- Most gadgets including smartphones and laptops use lithium-polymer batteries, an alternative to lithium ion batteries

#### **India-Chile Relations:**

- Chile is India's window to Latin America and to the Pacific Alliance.
- Chile is the fifth largest trading partner of India in the Latin American region.
- India- Chile signed the Preferential Trade Agreement in 2017 to enhance the trade.
- The bilateral trade is growing and stood at USD 2.8 billion in 2017-18.
- India and Chile are partners in the International Solar Alliance.
- Both countries cooperate extensively in multilateral fora and share similar views on climate change/renewable energy issues and on expansion and reforms of the UNSC (United Nations Security Council).
- India- Chile has signed three Memorandum of Understandings (MoUs) in the fields of - mining, culture, disability.

#### **Geography and Location:**

- Chile is a **South American country** occupying a narrow strip of land between the Andes to the east and the Pacific Ocean to the west.

- It borders Peru to the north, Bolivia to the northeast, Argentina to the east, and the Drake Passage in the south.
- The Atacama desert is one of the driest places in the world and touches Chile in its northern side and is a source of sodium nitrate fertilizer.
- It owes its aridity due to a constant temperature inversion of cool north-flowing Humboldt ocean current.
- **Chuquicamata** is the World's largest **copper town** of Chile.



## Defence & Security

### 1. DRDO successfully tests VSHORADS missile:

- Recently, the **Defence Research and Development Organisation (DRDO)** conducted two successful test flight of Very Short Range Air Defence System (VSHORADS) missile from a ground based portable launcher at the Integrated Test Range, Chandipur, off the coast of Odisha.
- **Very Short-Range Air Defence System (VSHORADS)** is a Man Portable Air Defence System (MANPAD) designed and developed indigenously by DRDO's Research Centre Imarat (RCI), Hyderabad in collaboration with other DRDO laboratories and Indian Industry Partners.
- This new missile equipped with modern technologies will give further technological boost to the Armed Forces.
- **VSHORADS** missile incorporates many novel technologies including miniaturized Reaction Control System (RCS) and integrated avionics, which have been successfully proven during the tests.
- The missile, meant for neutralizing low-altitude aerial threats at short ranges, is propelled by a dual thrust solid motor.
- The design of the missile including launcher has been highly optimized to ensure easy portability.

### 2. Lt. General Anil Chauhan becomes next CDS:

- Recently, the Government of India has appointed Lieutenant General Anil Chauhan (Retd), a native of Pauri district of Uttarakhand, as the next (second) Chief of Defense Staff (CDS) of the country.

**About CDS:**

- The post of Chief of Defence Staff (CDS) was created in December 2019. The CDS would act as the Principal Military Advisor to the Defence Minister and the Permanent Chairman of Chiefs of Staff Committee (COSC).
- He is the ex-officio secretary of the Department of Military Affairs (DMA), which was created as the fifth department of the Ministry of Defence. The age limit for the CDS is 65 years of age without any fixed tenure.

### 3. Ban on PFI:

- The Government of India has banned the Popular Front of India and its affiliates for five years under the **Unlawful Activities (Prevention) Act 1967** for having terror links.
- The PFI was created in 2007 through the merger of three Muslim organisations in southern India namely the National Democratic Front in Kerala, the Karnataka Forum for Dignity, and the Manitha Neethi Pasarai in Tamil Nadu.
- The formation of the PFI was formally announced at a rally in Bengaluru during what was called the “Empower India Conference” on 16th February, 2007.
- The Ministry of Home Affairs declared the PFI an “unlawful association” along with its associates which includes:
- Rehab **India Foundation (RIF)**, Campus Front of India (CFI), All India Imams Council (AIIC), National Confederation of Human Rights Organisation (NCHRO), National Women’s Front, Junior Front, Empower India Foundation and Rehab Foundation, Kerala”

#### Reason for the Ban:

- According to the government, some of the PFI’s founding members are leaders of the Students Islamic Movement of India (SIMI) and the PFI also has linkages with Jamaat-ul-Mujahideen Bangladesh (JMB), both of which are proscribed organisations.
- There had been a number of instances of international linkages of PFI with Global Terrorist Groups like Islamic State of Iraq and Syria (ISIS).

#### **What is the Unlawful Activities (Prevention) Act?**

- Originally enacted in 1967, the UAPA was amended to be modelled as an anti-terror law in 2004 and 2008.
- In August 2019, Parliament cleared the Unlawful Activities (Prevention) Amendment Bill, 2019 to designate individuals as terrorists on certain grounds provided in the Act.
- In order to deal with terrorism crimes, it deviates from ordinary legal procedures and creates an exceptional regime where constitutional safeguards of the accused are curtailed.
- Section 7 of the UAPA gives the government the power to “prohibit use of funds” by an “unlawful association”.
- It says that after an organisation is banned and the Centre is satisfied after an enquiry that “any person has custody of any moneys, securities or credits which are being used or are intended to be used for the purpose of the unlawful association, the Central Government may, by order in writing, prohibit such person from paying, delivering, transferring or otherwise dealing in any manner whatsoever with such moneys, securities or credits or with any other moneys, securities or credits which may come into his custody after the making of the order”.

- It also gives powers to law enforcement agencies to search premises of such organisations and to examine their books of account.

#### **UAPA Tribunal:**

- The UAPA provides for a tribunal under a High Court judge to be constituted by the government for its bans to have long-term legal sanctity.
- Orders to declare an organisation as “unlawful” are issued by the Centre under Section 3 of the UAPA.
- The provision says that “no such notification shall have effect until the tribunal has, by an order made under Section 4, confirmed the declaration made therein and the order is published in the Official Gazette”.
- A government order would not come into effect until the tribunal has confirmed it.
- In exceptional circumstances, the notification can come into effect immediately once the reasons for it are recorded in writing. The tribunal can endorse or reject it.
- Powers:
- The tribunal has power to regulate its own procedure, including the place at which it holds its sittings. Thus, it can hold hearings in different states for allegations pertaining to those states.
- To make inquiries, the tribunal has the same powers as vested in a civil court under the Code of Civil Procedure, 1908.

#### **4. Defence ministry contract for BrahMos Missiles:**

- The Indian Government has inked a Rs.1,700 crore contract with BrahMos Aerospace Pvt Ltd for procuring BrahMos missiles.
- Dual role capability refers to the use of BrahMos missiles for land as well as anti-ship attacks. They can be launched from land, air and sea, and all three variants are in service in the Indian armed forces.

#### **What is the Significance of the Deal?**

- Induction of these dual-role capable missiles is going to significantly enhance the operational capability of Indian Navy fleet assets.
- The following contract is going to provide an important boost to indigenous production of the critical weapon system.
- The Brahmos missiles are also expected to enhance ammunition with the active participation of indigenous industry.

#### **What are the BrahMos Missile?**

- The BrahMos missile, an Indo-Russian joint venture, has a range of 290 km and is the fastest cruise missile in the world with a top speed of Mach 2.8 (nearly three times the speed of sound).
- BrahMos is named for the rivers Brahmaputra and Moskva.
- It is a two-stage (solid propellant engine in the first stage and liquid ramjet in second) missile.
- It is a multiplatform missile i.e., it can be launched from land, air, and sea and multi capability missile with pinpoint accuracy that works in both day and night irrespective of the weather conditions.
- It operates on the "Fire and Forgets" principle i.e it does not require further guidance after launch.

## What are the Recent Development?

- In April 2022, an anti-ship version of the BrahMos supersonic cruise missile was successfully test-fired jointly by the Indian Navy and the Andaman and Nicobar Command.
- In January 2022, an extended range sea-to-sea variant of the BrahMos supersonic cruise missile was test fired from stealth guided missile destroyer INS Visakhapatnam.

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### 5. Kibithu military garrison:

- Recently, a military station and a major road near the Lohit Valley on the Line of Actual Control (LAC) with China were recently named after the country's first CDS General Bipin Rawat.
- Kibithu is a small village on the banks of the Lohit Valley in the eastern part of India. Kibithu is considered an important place from military and strategic point of view.

### 6. Indian Army Exercise Parvat Prahar:

- The **Exercise Parvat Prahar** comes as India and China are undertaking disengagement from Patrolling Point-15 in eastern Ladakh.
- The exercise saw the deployment of all new major inductions of the Army.
- The exercise used newly inducted all-terrain vehicles transported by Chinook heavy lift helicopters and K9-Vajra howitzers, among others.
- Simultaneously on the western front, Exercise Gagan Strike culminated with a fire power display of attack helicopters supporting deep operations by Strike Corps.

### 7. Taragiri:

- Recently, Mazagon Dock Shipbuilders Ltd (MDL) recently launched the third Stealth Frigate of Project 17A "**Taragiri**".
- **Taragiri** is the indigenously-designed Nilgiri-class stealth guided-missile frigate constructed by Mazgaon Dock Shipbuilders Limited (MDL).
- Taragiri is the third stealth frigate built as part of Project 17A under which a series of such guided-missile frigates are being constructed for the Navy.
- The 149-metre-long and 17.8-metre-wide ship is propelled by a combination of two gas turbines and two main diesel engines which are designed to achieve a speed of more than 28 knots at a displacement of as much as 6,670 tonnes
- The steel used in the hull construction of P17A frigates is indigenously developed DMR 249A, which is a low carbon micro-alloy grade steel manufactured by the Steel Authority of India Limited.
- Construction methodology: This ship has been built using integrated construction methodology.
- In this method, several modules of the vessel are pre-constructed and later fitted on the ship.

### 8. Synergy: CERT-In Cyber Security Exercise:

- Recently, Computer Emergency Response Team - India (CERT-In) successfully designed & conducted the Cyber Security Exercise “Synergy” for 13 Countries as part of the International Counter Ransomware Initiative.
- The objective was to Assess, Share and Improve strategies and practices among Member-States to build network resiliency against ransomware & cyber extortion attacks.
- The exercise was conducted as part of the International Counter Ransomware Initiative-Resilience Working Group which is being led by India under the leadership of National Security Council Secretariat (NSCS).
- The theme of this exercise was Building Network Resiliency to Counter Ransomware Attacks.
- The exercise scenario was derived from real life cyber incidents, in which a domestic level (limited impact) ransomware incident escalates to a global cyber security crisis.
- Each State participated as a National Crisis Management Team having composition from different government agencies including National CERTs/CSIRTs, Law Enforcement Agencies (LEA), Communication & IT/ICT Ministry and Security agencies.

#### What is Ransomware?

- Ransomware is a malware designed to deny a user or organization access to files on their computer.
- By encrypting these files and demanding a ransom payment for the decryption key, cyber attackers place organizations in a position where paying the ransom is the easiest and cheapest way to regain access to their files.
- Some variants have added additional functionality - such as data theft - to provide further incentive for **ransomware** victims to pay the ransom.

#### What is CERT-IN?

- The **Computer Emergency Response Team** - India is an organisation of the Ministry of Electronics and Information Technology with the objective of securing Indian cyberspace.
- It is a nodal agency which deals with cybersecurity threats like hacking and phishing.
- It collects, analyses and disseminates information on cyber incidents, and also issues alert on cybersecurity incidents.
- CERT-IN provides Incident Prevention and Response Services as well as Security Quality Management Services.

#### 9. **Indian Navy's new ensign:**

- The Prime Minister will unveil the new Ensign (flag) of the Indian Navy in Kochi to mark the launch of India's first aircraft carrier, INS Vikrant.
- An **Ensign** is a national flag which is displayed on ships and aircraft, often with the special insignia of a branch or unit of the armed forces.
- The present ensign carries the Saint George's Cross with the Tricolour in the canton (top left corner of flag).
- There had been a long pending demand for a change in the naval ensign.
- The original suggestion for change came from Vice Admiral VEC Barboza who retired from the Navy as the Flag Officer Commanding-in-Chief Western Naval Command.

- The present ensign is essentially a successor to the pre-Independence ensign of the Indian Navy which had the red George's Cross on a white background with the Union Jack of the United Kingdom on the top left corner.
- After Independence, on August 15, 1947, the Indian defence forces continued with the British colonial flags and badges and it was only on Jan 26, 1950 that a changeover to Indianised pattern was made.
- The Navy crest and flag were changed but the only difference made to the flag was that the Union Jack was replaced with the Tricolour, and George's Cross was retained.

#### **Saint George's cross:**

- The red cross on a white background is known as the Saint George's Cross and is named after a Christian Warrior Saint who is believed to have been a crusader during the third crusade.
- This cross also serves as the flag of England which is a constituent of the United Kingdom.
- It was adopted by England and the city of London in 1190 to identify English ships entering the Mediterranean.
- Most Commonwealth countries retained the Red George's Cross at time of their independence, but several have done away with it on their respective naval ensigns over the years.
- Prominent among them are Australia, New Zealand and Canada.

#### **10. Tejas Mark-2 Project:**

- Recently the Cabinet Committee on Security (CCS) approved the project to develop a more capable and powerful version of the indigenous aircraft LCA Mark 2 multirole fighter jet.
- According to the Aeronautical Development Agency (ADA), LCA Tejas-Mk2 will be rolled out in 2022 and the first flight in early 2023. Advanced Medium Combat Aircraft (AMCA) will be rolled out in 2024 and first flight in 2025.
- Simultaneously, the project for development of a twin-engine deck-based fighter jet meant to fly from the Navy's aircraft carriers is also making progress.
- ADA is an autonomous body of the Ministry of Defence.

## **Geography**

### **1. Hurricane Ian:**

- Recently, the Hurricane Ian made landfall in southwestern Florida as a major Category 4 storm, causing dangerous storm surge, winds and flooding.

#### **Details:**

- Hurricane Ian is one of the most powerful storms in U.S. history, tearing apart homes and buildings.
- The storm made landfall near Cayo Costa as a Category 4 storm with maximum sustained winds measured at a stunning 150 mph. This is only 7 mph slower than a

Category 5-the highest status on the Saffir-Simpson Hurricane Scale of Hurricane Intensity.

### Tropical Storms:

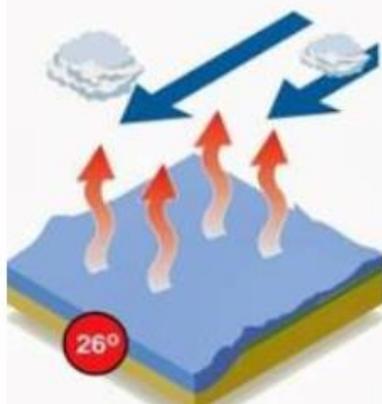
- Hurricanes, cyclones and typhoons are all types of tropical storms. But are given different names depending on where they appear.
- Hurricanes are tropical storms that form over the North Atlantic Ocean and Northeast Pacific.
- Cyclones are formed over the South Pacific and Indian Ocean.
- Typhoons are formed over the Northwest Pacific Ocean.

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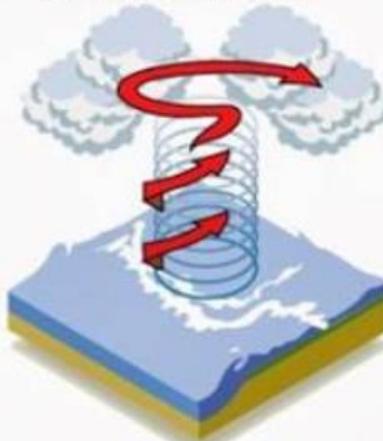
## How tropical storms are formed

High humidity and ocean temperatures of over 26°C are major contributing factors

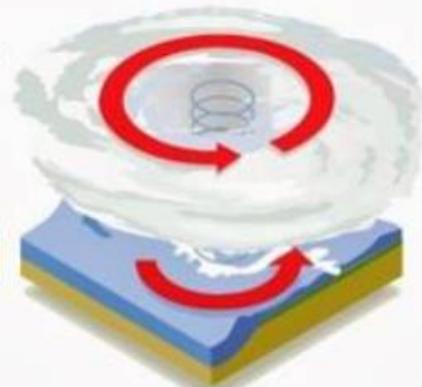
**Water evaporates** from the ocean surface and comes into contact with a **mass of cold air**, forming clouds



**A column of low pressure** develops at the centre. **Winds form** around the column



As pressure in the central column (the eye) weakens, the **speed of the wind** around it increases



### Favourable Conditions required:

- Large sea surface with temperature higher than 27° C,
- Presence of the Coriolis force enough to create a cyclonic vortex,
- Small variations in the vertical wind speed,
- A pre-existing weak low-pressure area or low-level-cyclonic circulation,
- Upper divergence above the sea level system

### 2. IDMC-ADB report:

- The recently released joint report of the Internal Displacement Monitoring Centre (IDMC) and the Asian Development Bank (ADB) raised concerns regarding long southwest monsoon causing large-scale displacement of masses in South Asia.

### Key findings of the report:

- The report found that southwest monsoon is lasting longer than its season and overlapping with the northeast monsoon, causing more severe downpour, flooding and storms in South Asia.
- While the southwest monsoon reached the peninsular India on time, it had stayed beyond seasonal boundary of September.
- In 2021, it had lasted until October, overlapping with the northeast monsoon

- This report assessed the forced movement within a country boundary and displacement due to natural disasters during the period of 2010-21.
- It found that disasters displaced about 61.4 million people in south Asia during this period. of this, 58.6 million were displaced because of weather-related disasters.
- Floods and storms caused about 90 per cent of the total displacement.
- Floods caused the displacement of 37.4 million and storm, including major tropical cyclones, caused 21 million internal displacements.
- El Nino Southern Oscillation variation has played a major role in the increased instances of flooding and storms.
- Climate change is also causing prolonged and unpredictable monsoon seasons.
- In the overall Asia-Pacific region, about 225 million individuals were displaced during the 2010-2021 period.
- This means that nearly 19 million people were displaced because of disaster each year.
- This is more than 75 per cent of the total global figure on displacement.
- 95 per cent of all disaster displacements in Asia Pacific are caused by monsoon rains, floods and storms.
- The disaster displacement risks are mainly worsened by rapid urbanization, socioeconomic vulnerability and population growth in hazard-prone areas.

#### **Internal Displacement Monitoring Centre:**

- The Internal Displacement Monitoring Centre or IDMC is an International non-governmental organization established in 1998 by the Norwegian Refugee Council in Geneva.
- It is focused on monitoring and providing information and analysis on the world's internally displaced persons.

#### **3. Congo Basin Forests – State of the Forests 2021:**

- The report titled “Congo Basin Forests – State of the Forests 2021” was released recently by the Central African Forests Commission.
- Increased investment and research is required for the protection of peatlands in central Congo basin, which are currently under threat because of hydrocarbon exploration, logging, palm oil plantation, hydroelectric dams and climate change.
- Also known as the Cuvette Centrale peatlands, the peatlands in the central Congo basin span across the Democratic Republic OF Congo as well as the Republic of Congo.
- They cover an area of 145,500 square kilometres.
- They are capable of storing carbon worth of about 20 years of fossil fuel emissions of the United States.
- There is also an urgent need to strengthen institutions and frameworks at the national level for the effective application and implementation of international agreements and commitments focusing on the conservation of these vulnerable regions.
- The conservation of these peatlands is critical as they are capable of storing around 30 gigatonnes of carbon in a peat. This is equal to the above-ground biomass of trees in the entire Congo basin forest.

#### **What are the Peatlands?**

- Peatlands are a type of wetlands. It refers to the peat soil and the wetland habitat growing on its surface.

#### **How do they form?**

- In some areas, year-round waterlogged conditions slow the process of plant decomposition to such an extent that dead plants accumulate to form peat. Over millennia this material builds up and becomes several metres thick.

**Distribution:**

- Peatlands occur in almost every country on Earth, currently covering 3% of the global land surface.

**Importance:**

- Peatlands are among the most valuable ecosystems on Earth.
- They are critical for preserving global biodiversity, provide safe drinking water, minimise flood risk and help address climate change.



- Peatlands are the largest natural terrestrial carbon store; the area covered by near natural peatland worldwide (>3 million km<sup>2</sup>) sequesters 0.37 gigatonnes of carbon dioxide (CO<sub>2</sub>) a year – storing more carbon than all other vegetation types in the world combined.
- Damaged peatlands are a major source of greenhouse gas emissions, annually releasing almost 6% of global anthropogenic CO<sub>2</sub> emissions. Peatland restoration can therefore bring significant emissions reductions.

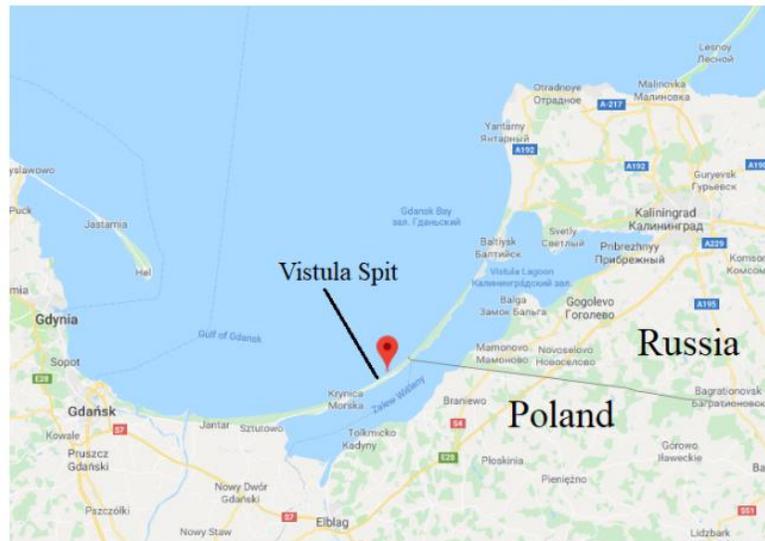
**4. Poland opens new canal across the Vistula Spit:**

- Recently, Poland has opened a new sea waterway to enable ships to sail from the Baltic Sea and the Bay of Gdansk to ports of Vistula lagoon without relying on Strait of Pilawa in Russia.
- The new canal was opened on the 83rd anniversary of the Soviet invasion of Poland during the Second World War.
- This was done to symbolically demonstrate the end of Russia’s influence on the country’s economy and development.
- The new canal cuts across the Vistula Spit, east of Gdansk, enabling ships sailing to travel from the Baltic Sea and the Bay of Gdansk to Elblag and other ports of the lagoon without getting authorization to travel through Russia’s Strait of Pilawa.

- The Vistula Spit is an Aeolian sand spit or a peninsular stretch that separates the Vistula Lagoon from the Gdansk Bay in the Baltic Sea. Its tip is separated from the mainland by the Strait of Pilawa. This spit is politically divided between Poland and Russia as the border between Poland and Kaliningrad Oblast (semi-exclave belonging to Russia) passes through it.

#### Strait of Pilawa:

- Situated in Kaliningrad Oblast, the Strait of Pilawa is a waterway that connects the Baltic Sea with the Vistula Lagoon – a brackish water lagoon separated from the Gdansk Bay by the Vistula Spit.
- The strait is a major shipping route connecting Russian ports of Baltiysk and Kaliningrad in the northeastern lagoon and the Polish ports like Elblag, Braniewo, Frombork etc., with the open sea.



#### 5. Gayaji Dam:

- Recently, the country's largest rubber dam and a steel bridge over the Falgu river near Vishnupad temple in Bihar.
- The Gayaji Dam has been constructed by Rubina Company of Austria in collaboration with Nagarjuna Construction Company of Hyderabad on the advice of experts from IIT Roorkee.
- Apart from the rubber dam, the banks along the Falgu River have also been developed and a steel bridge has been built for pilgrims to visit Sita Kund.

## History, Art and Culture

#### 1. Bathukamma:

- Bathukamma is a colourful floral festival of **Telangana** and is celebrated by womenfolk with exotic flowers of the region.

- It comes during the latter half of monsoon, before the onset of winter. It falls two days before Dassera.
- The most abundant of these flowers are – ‘gunuka’ and ‘tangedu’.
- The ‘shilpakka pandlu’ (or ‘sitaphalalu’), custard apples or ‘poor man’s apple’, are great attraction during this season.
- The flowers are carefully arranged row after row in a brass plate (called ‘taambalam’) in circular rows and in alternate colours. The womenfolk carry them on their heads and move as a procession towards a bigger water body near the village or town. Then, ‘Bathukammalu’ are slowly immersed into the water.
- Then they share the ‘maleeda’ (a dessert made with sugar or raw sugar and corn bread) sweets.
- Women make ‘boddemma’ (a deity of Gowri ‘mother Durga’ made with earthly mud) along with Bathukamma and immerse it in the pond. This helps reinforce the ponds and helps it retain more water.
- The flowers used in the festival have a great quality of purifying water in ponds and tanks and are environment-friendly.

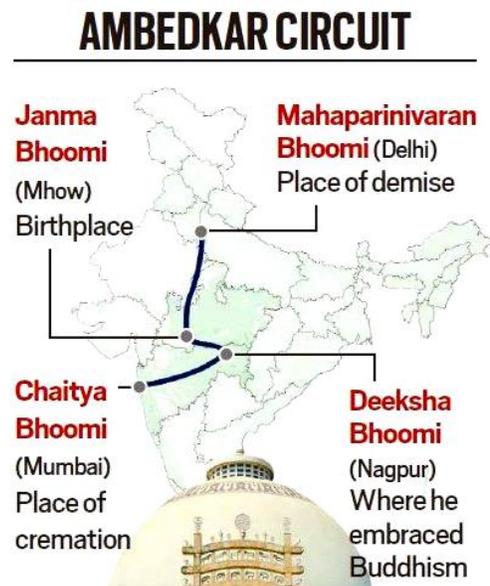


## 2. Ambedkar Circuit:

- Recently, the Central government announced a special tourist circuit named Ambedkar circuit, which encompasses five key sites associated with Dr B.R. Ambedkar.
- The government had first proposed the Ambedkar Circuit, or Panchteerth, in 2016, but the conceptualisation of the plan could be held recently.
- The five cities in the tourist circuit as announced by the government are:
- Janma Bhoomi- Ambedkar’s birthplace in Madhya Pradesh’s Mhow.
- Shiksha Bhoomi- the place in London where he stayed while studying in the UK.
- Deeksha Bhoomi- the place in Nagpur where he embraced Buddhism.
- Mahaparinirvan Bhoomi- the place of his demise in Delhi.
- Chaitya Bhoomi- the place of his cremation is in Mumbai.

### Significance:

- ✓ The idea is to attract tourists beyond the Dalit community, who mostly visit these places as a pilgrimage.
- ✓ The journey will include meals, ground transportation, and entry to the site.



- ✓ The creation of special circuits allows the government to focus better on the comprehensive development of all sites related to the theme, including infrastructure, road and rail connectivity, and visitor facilities.

### 3. **First SCO Tourism and Cultural Capital:**

- Recently, Varanasi has been nominated as the first-ever SCO Tourism and Cultural Capital during the period 2022-2023 at the 22nd Meeting of **Shanghai Cooperation Organization (SCO)** Council of Heads of State in Samarkand, Uzbekistan on September 16, 2022.
- Prime Minister Shri Narendra Modi had participated in the SCO Summit 2022.
- The regulations for nomination of the **SCO Tourism and Cultural Capital** were adopted at the Dushanbe SCO Summit in 2021.
- SCO Tourism and Cultural Capital is adopted with an objective of promoting cooperation between the SCO Member States in the field of culture and tourism.

#### **Significance:**

- The nomination of Varanasi as the first ever SCO Tourism and Cultural Capital will promote tourism, cultural and humanitarian exchanges between India and the SCO member Countries.
- It also underlines India's ancient civilizational links with Member States of SCO, especially the Central Asian Republics.

### 4. **World's largest museum of Harappan culture:**

- The world's largest museum on Harappan culture is currently being set up in Rakhigarhi, Haryana.
- The village of Rakhigarhi was part of the Indus Valley Civilisation from 2600-1900 BC. Not only this, the place was one of the largest settlements of the ancient civilisation located in the Ghaggar-Hakra River plain.
- However, the site remains largely unexcavated and only about five percent of the village has been excavated till date.

#### **Key Points:**

- The museum on Harappan culture in Rakhigarhi would showcase some 5,000-year-old artefacts belonging to the Indus Valley Civilization.
- This world class museum would display photographs depicting Rakhigarhi's history.
- The museum, which is currently under construction, would give recognition to Rakhigarhi at the international and national levels and increase job opportunities for the local communities.
- A special zone is being created in the museum for children to make them aware of the history in a recreational manner.
- The museum would also house an open-air theatre and a library.

## **Important Sites of IVC**

Site	Excavated by	Location	Important Findings	Site	Excavated by	Location	Important Findings
Harappa	Daya Ram Sahini in 1921	Situated on the bank of river Ravi in Montgomery district of Punjab (Pakistan).	<ul style="list-style-type: none"> <li>Sandstone statues of Human anatomy</li> <li>Granaries</li> <li>Bullock carts</li> </ul>	Amri	N.G Majumdar in 1935	On the bank of Indus river	<ul style="list-style-type: none"> <li>Footprint of a dog chasing a cat</li> <li>Antelope evidence</li> </ul>
Mohenjodaro (Mound of Dead)	R.D Banerjee in 1922	Situated on the Bank of river Indus in Larkana district of Punjab (Pakistan).	<ul style="list-style-type: none"> <li>Great bath</li> <li>Granary</li> <li>Bronze dancing girl</li> <li>Seal of Pasupathi Mahadeva</li> <li>Steatite statue of beard man</li> <li>A piece of woven cotton</li> </ul>	Kalibangan	Ghose in 1953	Rajasthan on the bank of Ghaggar river	<ul style="list-style-type: none"> <li>Fire altar</li> <li>Camel bones</li> <li>Wooden plough</li> </ul>
Sutkagendor	Stein in 1929	In southwestern Balochistan province, Pakistan on Dast river	<ul style="list-style-type: none"> <li>A trade point between Harappa and Babylon</li> </ul>	Lothal	R.Rao in 1953	Gujarat on Bhogva river near Gulf of Cambay	<ul style="list-style-type: none"> <li>First manmade port</li> <li>Dockyard</li> <li>Rice husk</li> <li>Fire altars</li> <li>Chess playing</li> </ul>
Chanhudaro	N.G Majumdar in 1931	Sindh on the Indus river	<ul style="list-style-type: none"> <li>Bead makers shop</li> </ul>	Surkotada	J.P Joshi in 1964	Gujarat	<ul style="list-style-type: none"> <li>Bones of horses</li> <li>Beads</li> </ul>
				Banawali	R.S Bisht in 1974	Hisar district of Haryana	<ul style="list-style-type: none"> <li>Beads</li> <li>Barley</li> <li>Evidence of both pre-Harappan and Harappan culture</li> </ul>

### 5. Naga Mircha Festival:

- Recently, the first edition of the Naga Mircha festival was organized in Seiyhama village of Kohima district in Nagaland.

#### Key facts:

- The first-ever **Naga Mircha (King Chilli) Festival 2022** was organized in the village hall of Seiyhama village in Kohima district.
- The event was sponsored by the Nagaland Horticulture Department.
- Naga Mircha was the first product to receive a **GI tag from Nagaland**.

#### Geographical Indication (GI) Tag:

- Geographical Indication (GI) is an indication used to identify goods having special characteristics originating from a definite geographical territory.
- The Geographical Indications of Goods (Registration and Protection) Act, 1999 seeks to provide for the registration and better protection of geographical indications relating to goods in India.
- It is governed and directed by the WTO Agreement on Trade-Related Aspects of Intellectual Property Rights (TRIPS).

- It was decided and also stated under Articles 1 (2) and 10 of the Paris Convention that the protection of industrial Property and Geographical Indication are elements of Intellectual Property.
- It is primarily an agricultural, natural or a manufactured product (handicrafts and industrial goods).

Page 95 **Significance:**

- Once a product gets this tag, any person or company cannot sell a similar item under that name.
- GI registration of a product provides it legal protection and prevention against unauthorised use by others.
- GI tag helps in promoting the exports of the product.
- It also provides comfort to customers about the authenticity of that product.

**6. Inauguration of 'Kartavya Path':**

- Recently, The Prime Minister inaugurated the 'Kartavya Path' and unveiled the statue of Netaji Subhas Chandra Bose at India Gate.
- **Kartavya Path** symbolizes a shift from erstwhile Rajpath being an icon of power to Kartavya Path being an example of public ownership and empowerment.
- The statue of Netaji Subhas Chandra Bose made of granite, is a fitting tribute to the immense contribution of Netaji to our freedom struggle, and would be a symbol of the country's indebtedness to him.
- Crafted by Shri Arun Yogiraj, who was the main sculptor, the 28 feet tall statue has been carved from a monolithic granite stone and weighs 65 MT.
- These steps are in line with Prime Minister's second 'Panch Pran' pledged during 75th Independence Day 2022, for New India in Amrit Kaal: 'remove any trace of colonial mindset'.
- Over the years, **Rajpath** and adjoining areas of the Central Vista Avenue had been witnessing pressure of increasing traffic of visitors, putting stress on its infrastructure.
- Central Vista Avenue is part of the government's ambitious Central Vista redevelopment project.

**7. 3 Indian Cities in UNESCO Network of Learning Cities:**

- Recently, Warangal from Telangana and Thrissur and Nilambur from Kerala have joined the UNESCO Global Network of Learning Cities (GNLC).
- These Indian cities became the nation's first entrants in the UNESCO Global Network of Learning Cities.

**What is the UNESCO Global Network of Learning Cities(GNLC)?**

- It is an international network consisting of cities that successfully promote lifelong learning across their communities.
- The network supports the achievement of all 17 Sustainable Development Goals (SDGs) in particular SDG 4 ('Ensure inclusive and equitable quality education and promote lifelong learning opportunities for all') and SDG 11 ('Make cities and human settlements inclusive, safe, resilient and sustainable').

**What are the features of a learning city?**

- There are six features that define a learning city. **These include cities that** 1) Effectively mobilize their resources in every sector to advocate inclusive learning, 2) Revitalizes learning in families and communities, 3) Facilitate learning for and at workplaces, 4) Extend the use of modern learning technologies, 5) Augments quality and excellence in learning and 6) Fosters a culture of learning throughout life.

Page 96 **Why were Warangal, Thrissur and Nilambur included in the UNESCO Global Network of Learning Cities(GNLC) list?**

- **Thrissur:** Popularly known as the cultural capital of Kerala. Thrissur is home to academic and research institutions. It is also known for its jewellery industry, especially gold. The city has been included because of its initiatives focusing on vulnerable groups.
- **Warangal:** It has a rich cultural heritage. The city is a major tourism venue. The city has been included for its good practices such as advocating healthy environments for children and caregivers, free training for the transgender community and self-help groups.
- **Nilambur:** It is an ecotourism destination in Kerala. It is a city with various socio-economic patterns marked by an urban and rural mix. The majority of the population depends on agriculture and allied industries.

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